AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. VII., No. 49] SATURDAY, DECEMBER 6, 1851 [WHOLE No. 816, VOL. XXIV.

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

PRINCIPAL CONTENTS.

Tehuantepec Railroad....769
Hannibal and St. Josephs railroad—Mr. Allen's Letter....770
Internal Improvements in the State of N. York.771
Rates of Postage....774
Compound Rail....774
James River and Kanawha Canal....774
Alabama and Tennessee Railroad....775
New Albany and Salem Railroad....775
Central, Va., Railroad....775
Hempfield Railroad....775
North Carolina Railroad....775
Covington and Lexington Railroad....776
Stock and Money Market....776
Kennebec and Portland Railroad....777
Relation of the Canada Railroads to Boston and New York....778
New London, Willimantic and Palmer Road..779
Buffalo and Brantford Railroad....779
Railroads in Indiana....779
Internal Improvement Convention in Arkansas.780
Railroads in the Provinces....780
Trautwine on Curves....781

American Railroad Journal.

Saturday, December 6, 1851.

Tehuantepec Railroad.

In our last, we gave a brief description of the route of this proposed road, showing its practicability, and its superiority on the score of directness, and in possessing better harbors, and a more healthy climate, over any other across the Isthmus. We now wish to point out the advantages that will result to the railroads of the United States from the opening of the above route, compared with those by way of Panama and Nicaragua.

But before proceeding to this, we will state one, and perhaps the great cause of the unhealthiness of the Panama route. This results from the very rapid change of climate to which a person is subjected in a few days, in running from high latitudes, such as New York or San Francisco, to the region of the equator. The effect of this sudden change is most pernicious to health. A person has no time in which to become acclimated to it. His constitution becomes so excessively debilitated, that the least imprudence or want of care is fatal. All this is due, as we said before, to the rapid change of climate in the passage from New York to San Francisco. When we add to this the pestiferous climate of Chagres, no wonder that so many fall victims to disease on the Panama route. Just in proportion as we can avoid the low latitudes in the passage, shall we diminish the dangers of the route from sickness.

But to the question before us. A greater part of the travel to California now leaves the northern Atlantic ports in steamers and sailing vessels. Of course very little of this travel passes over our railroads. They receive but a slight accession to their business from the immense tide of travel flowing to the Pacific coast.

Let us suppose the Tehuantepec route to be opened, and that we have a continuous line of railroad from New York to New Orleans. That city would be in the direct line from New York to Tehuantepec, and the whole route to the Pacific coast could be performed by land, with the exception of crossing the Gulf of Mexico, a distance of about 900 miles. If such a route could be opened, nine out of every ten passengers, going to, and returning from, California, would take it. In the first place, it would be the cheapest. It would be much the most expeditious. It would be far the pleasantest and safest, by avoiding the dangerous navigation of the Florida keys. It would be much the most convenient route, as it would enable the business man, to take all the leading eastern cities on his way. All these advantages combined would throw upon our lines of railroad running in the direction of New Orleans, from the most distant extremes of the country, the whole tide of travel, and a very large amount of freight, destined for California. This travel, though now in its infancy, is enormous. Of its future extent we can form but a faint idea. If all of this travel and business could be thrown upon our roads, and be carried by them from one extreme of the Union to the other, a vast addition would be made to their ordinary revenues.

Every portion of the country is now struggling to complete the lines of railroad which they have in progress. Many of these lines threaten to overtask the efforts of those engaged in their prosecution. Now, we contend that when government proposes to extend aid to private enterprises, it is in duty bound to do this in such a manner, as to benefit the greatest number possible. Take, for instance, the Panama route. Only a very few of our citizens are interested in this, and any gratuity extended by government, goes for the benefit of a small number of wealthy capitalists of New York, who certainly stand in no want of such favors. If on the other hand, the aid of the general government could secure the opening of the Tehuantepec route, every person interested in the numerous lines of railroad running north and south, would be directly benefitted by such a result.

We shall very shortly have what may be termed a coast line of railroads, extending from New York, or rather from the eastern part of Maine, to New Orleans. This line is already in full operation to Wilmington, North Carolina. The Wilmington and Manchester railroad, now well advanced, and most energetically prosecuted, will carry this line to the railroads of South Carolina, Georgia and Alabama, and to Mobile and New Orleans. The line indicated, must always constitute one of the great through routes between the north and the south, and every portion of it is directly interested in having New Orleans the port of embarcation for the travel to California.

In moving west, we come to what may be called the great central line between the northern and southern States, traversing western Virginia, eastern Tennessee, northern Georgia and central Alabama, and running in a general southwesterly direction towards New Orleans. This line is interested equally with the coast line, in having the California travel take the New Orleans and Tehuantepec route. This line is of vast extent, and enlists immense interests. It is built at great cost, and it is with difficulty that it is carried forward by the people on its rouet. Any aid that government can bestow, would here accomplish a great good, and would materially lessen the burdens of a large class of our citizens, engaged in a most meritorious object.

On crossing into the Mississippi valley, we find lines equally important, and equally deserving. The great Mobile and Ohio railroad is, taken together, one of the grandest projects ever undertaken on this continent; and, when completed, is calculated to exert the most beneficial results, not only in a material and commercial, but in a political and social point of view. Extending from the Gulf to the Lakes, it will become the great channel of commerce between our northern and southern boundaries, between the tropics on the one hand, and high northern latitudes on the other. Socially it will blend and harmonise the peculiarities of these two extremes. The general government, influenced by the considerations to which we have

referred, have already made a liberal donation to this great line; but we believe that if it could secure its portion of the California travel, this would be a greater boon than all it has yet received. This road will be connected with New Orleans, by the road from that city through Jackson, Miss.

What we have said above, is equally applicable to the Alabama and Tennessee, and to the lines with which that will become connected. It applies in some degree, to nearly every road in the United States, particularly to those running north and south, and the advantage which they will derive will be in proportion to the magnitude of their respective lines.

We believe that our railroad companies feel the full force of what we have above stated. Why then should they not unite in a common object and upon a ground of mutual interest, in securing the opening of the Tehuantepec road. Money is not required to secure this. All the Tehuantepec company ask for is, that the government should protect their rights to their grant for a road, and encourage their efforts, by the same aid now extended to the Panama company, in the shape of contracts for carrying the government mails. So much our railroad companies can and should insist upon, and an united and concentrated effort, through the representatives in Congress, of the different sections interested, would turn the vast tide of California travel upon our leading lines of railroad.

We hope to see such efforts made to effect so desirable a result. It is called for, not only upon the ground of justice, but as a measure dictated by a wise self interest. Government, too, in extending aid to the Tehuantepec route, should have another object in view, and this should be to break down the odious and unscrupulous monopoly now enjoyed by the Panama company, in the carriage of freight and passengers to California. The cost of the passage thus far has been beyond all reason, and has been borne with peculiar hardship, as most of our emigrants are men of very limited means. The price charged for a passenger has hadno relation to the expense, but has been graduated solely by the power that the Panama company possessed of getting the largest posrible sum. The only way by which this abuse can be corrected, will be to open every practicable route, and by affording ample facilities, to allow competition to bring down the price to a fair rate. Congress could not perform a more just, or more humane act, than by assisting to throw open ALL the Isthmus routes; as, in such an event, competition between them would not only bring down the price charged for the passage to a reasonable point, but would secure good treatment, and comfortable quarters for the passengers. Let Congress look at, and maturely consider, these things, before it yields any further to the rapacious demands of the Panama company, which will be the more clamorous, from the immense sums expended, and we believe fruitlessly so, upon their road across the Isthmus.

The slight progress which the Panama company has made, and the improbability of that work ever being carried through, have been urged as objections against the probable success of the Tehuantepec project. Though there may be some plausibility in this objection, we are satisfied that it is not well grounded. The circumstances of the two cases are entirely different. The Panama route is notoriously unhealthy. The Tehuantepec route is believed to be as healthy as the routes of many of our southern and western roads. We all know how many engineers on the Panama route have fallen victims to the climate. We never met with a person who had been upon that line, who did not return the mere ghost of a man, or who did not express an unwillingness to return. On the other hand, the whole corps employed on the Tehuantepec route not only enjoyed the best of health, under great privations while upon the ground, but all of them, without exception, are most anxious to return to the field of their labors. This fact speaks volumes in favor of the Tehuantepec route, and proves its vast superiority over the Panama on the score of health, as well as in other respects.

Letter from the President of the Pacific Railroad Company to the Hannibal Convention.

ST. LOUIS, October 29, 1851.

GENTLEMEN: I regret that my continued bad health will not permit me to participate with you in celebrating the commencement of work upon the Hannibal and St. Joseph railroad. I thank the committee of the citizens of Hannibal, and the Board of Directors of the railroad company sincerely for their several special invitations to be present upon so interesting an occasion. My heart and good wishes, however, will be with you, as they have been heretofore, and I shall look with confidence to see a work so warmly sustained by the people immediately interested, so much needed, and so important to the whole country, prosecuted from the 1st Monday in November to its triumphant completion. I regard the line you have projected as very favorably situated in every respect for the construction and support of a railroad. You have a comparatively level country—you have coal, wood and water accessible for all the purposes of operation. You are on the great route of emigration to the Far West, and will connect the waters of the Missouri with the Mississippi. You are upon fertile lands, all the way, capable of sustaining a vast population, and of producing an immensely valuable surplus of agricultural staples for exportation. In a national point of view, however important the Central railroad of Illinois may be, I regard your road as of equal—direct value to the United States, and therefore as equally entitled to their aid. The Central road is longitudinal—yours is latitudinal. The great currents of trade and population take the lines of latitude, not of longitude. I presume that it will be found that no lines of railroad to facilitate Northern and Southern intercourse and trade, pay so well as those which facilitate Eastern and Western intercourse and trade.

I say this in no invidious spirit, but allude to it as perhaps a "fixed fact." Experience is demonstration that the great policy of the East is *Western extension* of railroad lines, and the more capital there is invested by the Eastern States in works projected to the West, the more works there will be glad to see constructed in the same direction. New York, for example, the undoubted commercial capital of this country, and likely long to remain so, has constructed a canal and two railroads to connect tide water and the Lakes. It is evidently the interest of the capital invested in these works to extend the lines along both shores of Lake Erie, and to continue in the natural course by the way of Terre Haute to the Mississippi at St. Louis, on one side, and to Chicago, reaching the great river at Galena, and Rock Island on the other. This trade of the West has enriched New York, and rendered her lines of travel and transport valuable. Boston, by her unexampled enterprise, has for a time shared it, taking a large portion of it, as it were, from the very mouth of New York—Philadelphia and Baltimore are reaching afar their arms to engage in a contest for this trade in the Valley of the Ohio, or upon the plains of the Buckeye State.

The two lines we are now constructing in Missouri, the one from Hannibal to St. Joseph on the north, the other from St. Louis to the western line on the south will be links in the great chain which will connect the eastern and the western boundaries of the United States. All the railroads which may be finished east of the Mississippi river, will be interested in the success of these two lines, and all the States, as they cherish their own works from Illinois to Maine, and from Maine to Carolina, are interested in encouraging them by any influence, political or otherwise, which they may bring to bear.

Missouri stands in an attitude somewhat different now from that she has occupied for many years. She has not heretofore given much notable evidence of active friendship for internal improvement. She has now emerged from her barbaric stolidity, and entered a career of enlightened improvement. She has commenced with due caution. She was particularly fortunate in being able to avail herself of the vast experience of the other States, in having a good credit unimpaired, and being comparatively free from debt. We shall soon feel these advantages. The last Legislature must have the credit of bringing the State to a fair commitment, and of preparing the way for more liberal and perfect laws hererafter. In the old attitude of Missouri, the subject was approached with some timidity, and perhaps not so much was gained or even asked, as might have been in a more advanced state. Yet I am not prepared to say that I would alter materially, the act loaning the credit of the State to our two railroads. There are very few of our railroad charters, however, that will be found to work well in practice. Experience will show in what particulars of detail they will require amendment. A railroad, although necessarily in the hands of a corporation, is a public enterprise, almost always engaged in, as was especially the case in Missouri, for the promotion of the general prosperity. If authorized at all by the Legislature, it is because public convenience or good requires it. In similar designs, generally, private interests are required to yield to those of the public. Individual rights ought always to be protected certainly, and are, so far as the intention of the law is concerned. But that an individual should be permitted to obstruct for months and perhaps a year or more, such a work, in order to obtain not only his rights, but something more, unreasonable and unconscionable sums of money for pretended and unreal damages, seems preposterous and absurd. Yet an individual through whose premises a railroad corporation may desire to construct their road, however much the road may enhance the value of his property, may, it seems, harass, delay and worry a company into a virtual surrender of their purse into his hands, till he gorges himself to his entire satisfaction. This seems to me nothing less than "fiat burglary," and requires a little legislative doctoring, or railroads in Missouri will cost much more than has been estimated.

In appropriating three millions and a half to our two leading lines of railroad, the last legislature did as much as prudence, in the use of the public credit, seemed to warrant. It is now of the highest importance that we make a careful and economical use of this credit, in order, that it may not depreciate under our management, but that it may take and maintain a rank to which it is entitled, at par with the leading State stocks of the country. There is no reason why Missouri credit should not be first rate. She has never failed to meet her engagements, nor has she made any she cannot meet. With a great variety of valuable natural resources, such as few other States possess, and immense territory of 65,000 square miles, a present population of 700,000, increasing at a rate that will enable her, if continued, to number over a million in the next ten years, she must act very unwisely and very differently from other States and people, if she does not find herself entirely at ease in regard to any obligations she has yet entered into, or is now contemplating.

The two railroads now going forward will furnish a test of the wisdom and utility of their projection in this State, and if the test is unfavorable, probably no more will be attempted. If favorable, they may be used as base lines, from which branches may be projected whenever they will pay, and as examples for independent lines. For myself, I anticipate the success of the system, and hope to live to see the Pacific road in operation, at least to the western boundary line, with a branch reaching into a southwestern district of the State, and either a branch or an independent line to the Iron Mountains, and perhaps a continuation to Arkansas. On the north side of the river, I hope to witness your

line completed, and a line from St. Louis crossing yours and reaching toward Iowa, and a connecting link between your road, and the Pacific road at their upper end, if not also, in or near their middle sections.

Having the advantage of a new country, and no old railroad connections to make, we have, on our Pacific road, adopted the wide gauge—five and a half feet. I should be glad to see your road adopt the same. It is a gauge particularly suited to the great west, and there is scarcely a doubt that the great east, if they were to commence *de novo* now, would adopt that gauge. Its great advantage consists, briefly, in admitting of a better arrangement of the engine, higher driving wheels, lower centre of gravity, greater speed, greater safety, and of larger and more commodious cars for passengers, as well as for cattle, and freights of a bulky character as many of yours will be. I found while at the east, that our gauge was generally approved by engineers, superintendents of roads, and manufacturers of engines. We are endeavoring to construct the Pacific road, so far as we go, as well as we can get the work done in this part of the country. We are going on by special contract—not by the 'lumping process,' which is so often availed of as wonderfully easy for a company, but as often turns out so hard for travellers, and so bad for working, that reconstruction necessarily has to follow.

It is much to be regretted that we cannot manufacture our engines and rails at home, where we have such an abundance of iron. But our Missouri mechanics are not yet quite prepared for the manufacture of the former, and no where in the country can manufacturers compete with the English in the production of rails. A dispatch from London, written during the present month, informs me that they can now be purchased for less than £5 per ton, delivered on board ship. We hope, however, after our first models of engines are brought out from the east, that we shall soon have a locomotive manufactory here. Everything else, cars, chains, spikes, and probably wheels and axles, etc., we expect to have manufactured in St. Louis, for our own supply, and for the furniture of any other neighboring road that may require them.—And everybody knows that one branch of industry generates and sustains another.

We shall then be fairly launched in internal improvement and domestic manufactures. And who shall then say, with all these resources, with these evidences of industry and enterprise, and this wide and free field around us that we cannot maintain a respectable footing in the race of civilization? Under such circumstances nothing but some great and radical wrong done, or suffered by us, can prevent our prosperity.

I remember, with great pleasure, the agreeable acquaintances I formed in the Legislature among the friends of the Hannibal and St. Joseph railroad. On the Loan Bill, the friends of that road, and of the Pacific road, co-operated heartily together. Let the kind spirit which prevailed there continue. We have still great labors before us. We want the right of way through the public lands, and such a grant of the lands themselves as we are in justice and equity entitled to. If it is right and proper to give lands to one State to make railroads, it probably is to another. And it would be grossly partial and unfair for him to give one of his boys a large slice, and another one, equally deserving, but perhaps not quite so smart, none at all. This cannot be. And it will be no good argument to say, because one of his big boys has not turned out so smart in the use of the gift, as Uncle Sam expected, that therefore Missouri shan't have any. Missouri must have justice. Uncle Sam is a large landholder here, pays no taxes, and his lands are to be largely benefit ed by these improvements. He can afford, without any loss, but with positive profit to himself, to give us every other section, for six miles on each side of our two roads, or the equivalent of that, on the usual conditions. I trust, we shall not only co-operate together in procuring this grant, but that we shall have the unanimous support of the State, and the co-operation of the friends of internal improvement in the Union, and that our claims may be so fairly and vigorously presented at the next session of Congress, that the grant will be made at once.

I fear I shall not be heard for much speaking, but the heart sometimes gets the better of the head, when the unlucky possessor of it must crave indulgence. I am, very respectfully,

Your obd't serv't,

THOS. ALLEN.

To Messrs. W. M. Cooke, R. N. Anderson, J. P. Ament, J. F. Hawkins, E. M. Moffett, Committee of citizens, and W. Jones, Esq., Sec. H. and St. J. R.R. Co.

From the Merchant's Magazine.

Internal Improvements in the State of New York.

A SKETCH OF THE RISE, PROGRESS, AND PRESENT CONDITION OF INTERNAL IMPROVEMENTS IN THE STATE OF NEW YORK.

RAILROADS, ETC.

Continued from Page 637.

At the time the public attention was first awakened to the importance of connecting the Atlantic with the western Lakes, railways were very little known, except the rude structures which had been used to facilitate the transportation of coal from the mine to the shipping port. And hence, when the resolution of 1810 was introduced into the legislature of the state of New York, by Jonas Platt, for the appointment of commissioners on internal improvements, it directed them "to explore the route of *inland navigation*, from Hudson's river to Lake Ontario and Lake Erie, examining the present condition of the navigation, and considering what further improvement ought to be made therein."

In making their report in 1811, under this resolution, the commissioners allude to the probable necessity of using railways in two cases only; one at the falls of Oswego, and the other in the vicinity of Albany. Mr. Weston, an English engineer employed by the "Western Inland Lock Navigation company," had given an opinion that a canal was impracticable at the falls of the Oswego, about twelve miles from the lake;* and as canal-boats could not navigate the lake, the commissioners came to the conclusion that a railway might be substituted for the canal from the falls to the lake. This says the report, "according to the estimate of Mr. Latrobe, would cost about $10,000 per mile; and by the aid of it, one horse could transport eight tons, supposing the angle of ascent not to exceed one degree. But an angle of one degree will ascend in a mile upwards of ninety-two feet, or nearly as much as the difference of level in the whole twelve miles."

In another part of the report, where it was proposed to bring the Erie Canal on an inclined plane from Lake Erie, "to a reservoir near Hudson's river, without locks," the commissioners say, that the descent there, of from three to four hundred feet by locks, would cost, perhaps, a million of dollars; "or if it should be deemed more advisable to transport by railways, the water used for machinery would probably yield a rent sufficient to keep the canal in repair."

In February, 1812, about one year after the publication of this report, Col. John Stevens, of Hoboken, New Jersey, addressed "a memoir to the canal commissioners," in which he urged them to substitute for the canal, on the whole distance from Lake Erie, "a railroad, on which the travel at no time would be interrupted." There is a precision in his estimates of the qualities of a railroad, and the power and speed of an engine, which is quite remarkable, when it is considered that this memoir was prepared fourteen years before the Liverpool and Manchester railroad was chartered in England, and seventeen years before the offer of £500 was made by that company for the most approved locomotive engine, to draw twenty tons at the rate of ten miles an hour.

As late as 1829, a committee of engineers in England, after examining the operations on the Stockton and Darlington railroad,* reported that the advantages and disadvantages of stationary and locomotive engines were pretty equally balanced, but that, upon the whole, looking especially at the expense of each, *the fixed engines were preferable*.

The reader will bear in mind, that the report of the New York commissioners, to which Col. Stevens refers, proposed to construct a canal from Lake Erie to Hudson river, on an inclined plane, to be supplied for the whole distance from the waters of Lake Erie, and maintaining a uniform descent in the canal by filling up ravines, which would have required at the Cayuga outlet an embankment for the bed of the canal one hundred and thirty feet high, for a distance of more than a mile. It was, therefore, a canal of this description to which Col. Stevens alluded when he spoke of it as a work "unparalleled for the boldness of its conception and the grandeur of its objects;" and the completion of which he thought would be protracted to a distant day, and that many might hesitate in regard to such heavy expenditures on an object presenting so distant a prospect of remuneration: adding, however, that a cost of even fifty millions would not probably exceed half the value of the property which at no distant period would be carried along the canal. Col. Stevens reminds the commissioners that the projected route from Lake Erie to the Hudson being in a high northern latitude, a canal would be locked up by frost for five months in the year; and that from the southern border of the lake, connections might be formed with the head-waters of the Ohio and the Susquehannah, subject to little interruption from ice. He admits, however, that the elevations on these routes are such, that the one to Albany is comparatively level. When, in addition to these advantageous circumstances," says Col. Stevens, "we take into consideration the decided superiority of the city of New York, in a commercial point of view, it will not be practicable to divert into another channel the current of trade, when once fairly established, from the interior to this city." To secure the completion of the communication in the shortest time, and an uninterrupted use of it during winter as well as summer, Col. Stevens recommended a wooden railway, to be supported on pillars from three to six feet from the surface of the ground.† The carriage-wheels of cast-iron, the rims flat with projecting flanges, to fit on the surface of the railways. The moving power to be a steam-engine with a cylinder of ten inches diameter, the elastic power of which, fifty pounds to the circular inch, would possess a power equal to five thousand pounds on the whole area of the piston, moving with a velocity of three feet in a second. This exceeds the power of twenty horses, equal to one hundred and sixty tons, on Mr. Latrobe's estimate of the power of one horse to draw eight tons on a grade of ninety-two feet to the mile. Should the wooden rails wear, so as to be inconvenient on account of renewal, "recourse could be had at any time to cast or plated iron railways, which could be fastened on the top of the wooden rails."

In a letter dated Albany, March 11, 1812, Chancellor Livingston wrote to Col. Stevens as follows:—

DEAR SIR:—I did not till yesterday receive yours of the 25th of February: where it has loitered on the road I am at a loss to say. I had before read of your very ingenious proposition as to the railway communication. I fear, however, on mature reflection, that they will be liable to serious objection, and ultimately more expensive than a canal. They must be double, so as to prevent the danger of two such heavy bodies meeting. The walls on which they are placed, must be at least four feet below the surface, and three above, and must be clamped with iron, and even then would

* These obstacles have been overcome by the construction of the Oswego Canal. Mr. Weston, in a letter to the commissioners in 1812, says:—I know not whether I ever declared that it was *impossible* to conduct a canal by this route. I should rather thing it was the technical term *impracticable;* of course restricted in the sense mentioned in the report of 1811." That is, in reference to the means which could be prudently applied to the object.

* This road, used for the conveyance of coal, was put in operation in 1825. All kinds of locomotive power were employed upon this line—locomotive engines, horses, and fixed engines.—*North British Review, Aug.* 1849.

† The railway from St. Petersburgh to Moscow, as it was projected by the Chevalier Von Geistner, lies wholly on an embankment ten-and-a-half feet high. This height was adopted to facilitate the sweeping off of the snow by the wind.

hardly sustain so heavy a weight as you propose moving at the rate of four miles an hour on wheels. As to wood, it would not last a week. They must be covered with iron, and that too very thick and strong. The means of stopping these heavy carriages, without *great shock*, and of preventing them from running upon each other—for there would be many running upon the road at once—would be very difficult. In cases of accidental stops, or the necessary stops to take wood and water, &c., many accidents would happen. The carriage of condensing water would be very troublesome.—Upon the whole, I fear the expense would be much greater than that of canals, without being so convenient. R. R. LIVINGSTON.

On the 16th of the same month, Gouverneur Morris, chairman of the board of commissioners, sent him the report of a committee to whom his proposition had been referred. The report contains several objections to the plan of Col. Stevens, to which the latter replied in a second communication. For a copy of the report and reply, see Vol. XIV, of this magazine, pp. 256-7.

In 1812, Col. Stevens published a pamphlet entitled "Documents tending to prove the superior advantages of railways and steam-carriages over canal navigation." In an introduction accompanying these documents, he says: "Although my proposal has failed to gain the approbation of the commissioners for the improvement of inland navigation of the state of New York, yet I feel by no means discouraged respecting the final result of the project. The very objections the committee have brought forward, serve only to increase if possible, my confidence in the superiority of the proposed railways to canals."

Col. Stevens had also presented his plans to Mr. Madison, and in referring to the importance of railways to the general government, he says: "They would at once render our frontiers on every side invulnerable. Armies could be conveyed in twenty-four hours a greater distance than it would take them weeks, or perhaps months to march." He alludes to "the celerity it would afford of communication with the distant sections of our wide-extended empire. To the rapidity of the motion of a steam-carriage on these railways, no definite limit can be set. The flying proas* in the Pacific ocean sail twenty miles the hour. The resistance of the water increases in the velocity of the vessel. Not so with a steam-carriage: it moves in a fluid eight hundred times more rare than water. The resistance will be proportionately diminished. If then, a proa can be driven twenty miles per hour by the wind, through so dense a fluid as water, I can see nothing to hinder a steam-carriage from moving on these ways with the velocity of one hundred miles an hour. This astonishing velocity is considered as merely possible. It is probable that, in practice, it may not be convenient to exceed twenty or thirty miles per hour. Actual experiments, however, can alone determine this matter, and I should not be surprised at seeing steam-carriages propelled at the rate of forty or fifty miles per hour."

Col. Stevens added in his introduction, that "these railways are calculated to be pre-eminently useful in the Southern States. The predominance of sand, the level surface, and abundance of pine-timber would not only render the construction of these railways very cheap, but peculiarly advantageous."†

It should not be forgotten that these views of Col. Stevens were presented to the public in 1812; and that in 1829, seventeen years thereafter, Mr. Gurney, of England, was experimenting with steam-carriages on common roads, from London to Bath; and so prevalent was the idea, that the means of interior communication would be effected by steam-carriages on common roads, to the exclusion of railways, that, as late as the year 1831, a committee of the English House of Commons presented to Parliament a very favorable report on the subject.‡

Mr. Bloomfield who called the public attention to the highly interesting production of Col. Stevens, in the *Merchants Magazine* for March, 1846, (vol. xiv. p. 249,) has the following remark, in regard to the rejection of a proposition for a railway by the New York commissioners: "Upwards of sixty millions of capital, and more than half that amount in interest and expenses—say one hundred millions—has been thrown away in these States, because such distinguished men as Robert L. Livingston, Gouverneur Morris, and De Witt Clinton, did not investigate the merits of railways, which are now in a fair way to supersede the canals in these States."

The resolution of the New York Legislature of 1810, from which the commissioners derived their authority, contemplated the examination of the works of the "Inland Lock Navigation Company," and a recommendation of such improvements in the "inland navigation," from the Hudson to the Lakes, as they deemed necessary for the interests of the State. They were, in fact, a board of "canal commissioners;" and whilst they referred the communication of Col. Stevens to a committee of the board, to examine and report thereon, they seem to have preferred their own plan of uniting the great Western Lakes and the Atlantic by a canal, to the proposition of Col. Stevens for a railway. At the time when the first Commissioners were called on to decide the important question as to the best plan for uniting the Western Lakes and the Atlantic Ocean, canals had been successfully tried in England, whereas the work which has been styled "the grand British experimental railway," from Liverpool to Manchester, was not fully tested until three or four years after the Erie canal was finished. The commissioners of 1811-12, were surrounded with many difficulties, and found it no easy task, although the great advantages of canals had been fully established in England, to satisfy the people of the State that a canal 350 miles in length was not a hazardous enterprise. And whilst it is reasonable to believe that their judgments were convinced of the superior usefulness of a canal on the lines from the Lakes to the Ocean, they may not have considered that it was their duty to present the proposition of Col. Stevens to the Legislature, or to do more than furnish the author of the railway memoir with a report on it from the body to which it was addressed.

Those who had the direction of the public works twenty years subsequent to the period referred to, and after the practicability and the advantages of railroads were fully established, can with more justice be arraigned for not having recommended to the Legislature the substitution of railways for the Chenango, the Black river, and the Genessee Valley canals. The canals which connect extensive navigable lakes with the Hudson river, have been much more useful in getting the products of the forest, of agriculture, and of the mines, to market, than railroads could have been. Among other advantages is the avoidance of one and in most cases two transhipments. This may be illustrated by comparing the Northern canal, which connects Lake Champlain with the Hudson river, with the Chenango canal, which does not intersect navigable waters. The former, with the Glens Falls feeder, has a canal navigation of seventy-nine miles; the Chenango canal has ninety-seven miles. The products accumulated from two hundred miles of the shores of Lake Champlain enter the canal at Whitehall, and, in many cases, the boats which are laden on the lake one hundred miles north of the canal are taken to New York without a transhipment of the property. In this case heavy products are conveyed 314 miles by water, paying toll on sixty-four miles only. The result of this accumulation by lake navigation, gives to the Champlain canal a business equal to 395,456 tons in 1850, whereas the business on the Chenango canal, in the same year, gives only 41,892 tons; the former averaging 5,095 tons per mile of canal navigation, and the latter only 531 tons per mile. In comparison with the Oswego canal the contrast is still more striking. The business of that canal, [which is not as long as the Chenango by fifty-nine miles, and cost $1,850,000 less,] in 1850 was equal to 583,346 tons, against 41,892 on the Chenango; averaging on the Oswego 15,351 tons per mile of canal navigation, and on the Chenango, as before given, 531 tons per mile.

It is quite obvious that a railroad through the Chenango Valley, principally a grazing region,* would have furnished adequate accommodations for the tonnage, and, by concentrating the whole transportation of passengers and products, would probably have yielded a fair remuneration on the outlay, and furnished to the inhabitants at all seasons of the year, accommodations far superior to the canal.

As a question of mere pecuniary investment, the substitution of a railroad for this canal would probably have saved the State $3,678,130, which it has already expended on the Chenango canal. But this misdirection of the public funds to a canal where a railroad would have been more useful and profitable, cannot with propriety be charged to an error of judgment on the part of the commissioners of 1812. When the condition of our own State at that time, and that of the country on the borders of the Lakes is considered; and when we look back on the wonderful achievements, during the last thirty years, of the "lake-canal policy," the weight of evidence is strongly in favor of the wisdom of the commissioners who decided in favor of connecting the great Western and Northern Lakes.

In what other channel of transportation could the coarse and bulky products of the forest, of agriculture, etc., have been brought to market, with the same facility and saving of cash payments, as by the canals? When the Erie and Champlain canals were completed, the inhabitants on their borders, in getting their products to market, adopted the method in which their own labor and means could be made available, with the smallest outlay of ready money. Those engaged in the lumbering business would construct cribs of a size to pass the locks, and fastening these cribs together, and using their own teams, would pass from lock to lock with rafts a thousand feet in length, to be separated and passed through each lock, and again formed into a raft at the foot of the lock. In this way twenty-two and a half millions of feet of sawed lumber, and twelve hundred thousand cubic feet of timber, passed the Champlain canal in 1823. The commissioners state, in their report of 1824, that the rates of toll on rafts had been doubled, to induce those who adopted this mode of transportation to use boats. Scows, costing three or four hundred dollars, were constructed for the transportation of lumber, wood, &c.; and it was estimated by the commissioners, that, by this regulation, three-fourths of the sawed lumber was transferred to boats. Yet, for the whole of the thirty years of canal navigation, timber has been prepared in rafts on Lake Champlain, towed to Whitehall, and, after being passed through the canal, re-rafted on the Hudson, and towed to New York. Companies were organized at the commencement of canal navigation, and regular lines of boats established, for the transportation of merchandise, emigrants, agricultural products, etc.; and the prices of transportation used in the tables annually published in the trade and tonnage of these canals, are the average cost of conveyance by these lines. But the advantages derived by those who furnished their own boats, horses, forage for them, and provisions for their own boats'

* A kind of sailing-vessel.

† A railway, 135 miles in length, from Charleston, South Carolina, to Augusta, in Georgia, was commenced in 1830, and finished in 1833, at an expense of $1,336,615, including engines, cars, and depots; less that $10,000 per mile. At the time of its completion, as stated by Mr. Pitkin, this was the longest railroad then in operation in any part of the world. Horatio Allen states, that it was decided to use the locomotive engine on this road, before the question was determined as to using it on the Liverpool and Manchester railway.

‡ *North British Review, Aug.*, 1849, p. 308.

* It is shown in Senate doc. No. 27, of 1839, that the product of animals, [or of a grazing country,] such as pork, beef, butter, cheese, lard, and wool, which came to market on the canals in 1838, was, in weight, equal to 16,892 tons, valued at nearly four-and-a-half millions of dollars, and all the tolls received on account of these articles, either coming to market, or moved on the canals. was only $31,155. This is a little more than two-and-a-half per cent of the tonnage, and less than two per cent of the tolls of the canals, and yet the value of the product of animals is more than *nineteen* per cent of the marked value of all the articles coming to tide-water. This, says the report of 1839, "illustrates that a canal cannot, at our rates of toll, receive a support from a grazing country.

crews, all of which were, at one time, exempt from the payment of toll,* are not easily computed. A large portion of the tonnage of the canals, embracing the coarser and less valuable products of the forest, of agriculture, and other commodities of little value and large bulk, find their way to market through this cheap mode of conveyance. Even in 1850, amidst the lockage of thirty seven thousand boats, there passed on the Erie canal, towards tide-water, 1663 cribs of timber; and the scow-boats, without decks, used principally for lumber, wood, stone, etc., exceed in tonnage the aggregate both of the "lake-boats" and the "line-boats." Whilst the "packet" and the "lake" and "line" boats number 2,645, and are rated at 110 500 tons, the scow-boats, with and without decks, number 2,370, and are rated at 230,800 tons.

The canal is a common highway constructed by the State, on which every person may transport his products to market in his own boat, by paying the established rates of toll. Inhabitants of other States register their boats, and navigate the canals with all the privileges of our citizens. If, instead of the Erie canal, a railroad had been constructed, the State would have become the common carrier of the products of the country, furnishing the cars and the motive power; and its citizens would have been shut out from all participation in the transportation of their own products to market. The transit of seventy millions worth of property belonging to the citizens of other States, which is now under the management of companies responsible for its careful preservation and safe delivery, would be exposed to the custody of State agents, possessing the power to screen themselves from personal responsibility, and casting the claim for damages on the State, which is not suable, and leaving the claimant to the protracted remedy of an application to the Legislature. Under the management of transportation companies on the canals, and railroad corporations, damages to persons and property, if not promptly settled by the party doing the injury, are readily redressed through the courts; and there is, probably, no highway of commerce in the world where the same amount of property is transported with less damage, and with as great security to the owner of the property, as on the Erie canal.

The management of a canal by the State is much more simple than that of a railroad; and although repeated efforts have been made to induce the Legislature to construct railroads to be managed by the State, and to assume those which have been constructed by companies, yet a prevalent conviction that the transportation business can be conducted more usefully, to all parties, by individuals than by State agents, has thus far kept the State free from any other connection with railroads than the loan of its credit to some of them.

For the transportation of light merchandise, and of products requiring speed in their transit to market, the railroad possesses decided advantages over any canal. But could any railroad, however well constructed, have performed the Herculean labors of the Erie canal, for the last thirty years? The Reading railroad, in 1849, carried 1,098,000 tons of coal to market. This road, ninety-three miles in length, has a double track, and, with its equipments and all expenses, cost eleven millions of dollars.

The products coming to tide water on the Erie canal in 1850, were equal to 1,554,000 tons. The railroads which are engaged in the transportation of passengers, and in the conveyance to market of the products of the country generally, do not carry in twelve months more than one-ninth part of the tonnage which passes on the Erie canal in seven months. On the Albany and West Stockbridge road, the transportation, exclusive of passengers, in 1850, was 170,588 tons. This road is connected with the Massachusetts "Western" railroad, and forms a part of the great line from Albany to Boston. The transportation of the Erie railroad, exclusive of passengers, for nine months ending on the 30th of September, 1850, was equal to 131.000 tons. The tonnage passing on the Erie canal in seven months of 1850, was more than four and a half times as much as that on the Erie and Boston railroads united.

The State engineer, in a note on page 11, assembly document No. 45 of 1851, says:—"It would require six double-track railroads, having other traffic from which to earn dividends, to perform the business of the Erie canal during the year 1850."

Although a railroad, in usefulness and economy, could not have supplied the place of the Erie canal, yet it is an essential auxiliary to it, on such a great business thoroughfare as that along the central line of New York. Notwithstanding the utility, if not necessity, of such a railroad, we have seen that, after the Mohawk road was fully tested, a proposition to construct a continuous road from Schenectady to Buffalo, in 1832, was rejected by a strong vote in the Senate, and found very little favor in the other House.

Private and local interests, however, may have influenced the legislation of 1832, for it was believed that it would be hostile to the interests of those engaged in the transportation business on the canal; and there was a feeling in the villages along the old post road—which by the construction of the Erie canal was left at a considerable distance from the great thoroughfare of business—that if one great company was organized, the road might follow the natural grade along the route of the canal, looking more to the accumulation of revenue by a route which would secure the western business, than to the accommodation of the interior villages. Whatever may be said at this day in regard to the necessity of adopting the easiest grade and the shortest line, it could not be expected in 1833 to 1836, that the capital and the influence of Auburn, Geneva, Canandaigua, and the other villages along the ancient thoroughfare, would be used for the construction of a railroad to make the canal line more completely the business thoroughfare of the State than it then was. Thus it is seen by the legislative history of railroad applications, as heretofore given, that, although there were applications for the whole line from Albany to Buffalo, and for separate portions of the route, in 1831-2, and each year after, the charters were doled out as follows: The Tonawanda railroad, from Rochester to Attica, was chartered in 1832; the Utica and Schenectady in 1833; the Auburn and Syracuse in 1834; the Syracuse and Utica in 1836, and the Auburn and Rochester, and Attica and Buffalo, the same year. The entire route from Schenectady to Buffalo, which was denied to one company in 1832, was covered by charters to six separate companies in the four subsequent years; and, with the Mohawk and Hudson, chartered in 1836, dividing the line among seven companies, from the Hudson river to Lake Erie.

CONSTRUCTION OF RAILROADS BY INDIVIDUAL ASSOCIATIONS.

Since 1830, associations of individuals have expended in the construction and equipment of railroads within the limits of New York, a greater sum than the State government has applied to the construction of canals from 1817 to the present time, a period of thirty-four years; and the aggregate debt of the railroad companies is greater than the debt of the State incurred for internal improvements. Whilst the canals constructed by the State extend less than eight hundred miles, the railroads at the close of the present year will exceed sixteen hundred miles in extent. Within the last five or six years, two thousand miles of Telegraph Lines, and more than two thousand miles of plank roads, have also been constructed and put in operation by the enterprise and effort of associations of individuals, within the limits of New York.

When the success which followed the construction of the Erie and Champlain canals brought to the capital petitions from various sections of the State, soliciting the aid of the treasury to extend similar advantages to the petitioners, it became a grave question how far the State government could embark in these enterprises, without embarrassing the treasury or exposing the people to taxation—By the act of 1817, ample provision was made for protecting the credit of the State, and the tax-payers, againt any liability growing out of expenditures for connecting the great western and northern lakes with the Atlantic Ocean. But this financial system, by the law of 1817, and the constitution of 1821, was limited to these canals, and the revenues could not be applied to new undertakings. Those who apprehended that the treasury might be overwhelmed with these claims for aid, were desirous of relieving the State finances from a portion of the burden to which they were exposed, by enlisting the means and efforts of individuals and associations in extending the system of internal improvements.

In regard to the construction and management of railroads by the State, there were other objections besides those of a financial character. The transportation of passengers and products was necessarily connected with the ownership of the road. If the State embarked in this business, its agents must be greatly multiplied, and a wide field of operations would be opened, extremely injurious, if not corrupting, in their effects upon the action of the government; and all this without performing the transportation business of the country as well as it would be done by individuals and associations.

The Delaware and Hudson canal company, which was chartered before the Erie canal was completed, was organized for the purpose of bringing coal to the Hudson river. This company expended $800,000 before making application for the aid of the State. The State was then solicited to become a stockholder in the company, or to loan its credit. The credit of the State was loaned to the company, secured by a mortgage on all its property. In this way, whilst the most efficient aid was given to the work, the State government avoided a connection, even as a stockholder, in the transportation and sale of coal. The loan of $800,000 to this company was amply secured, and, after paying the interest for twenty years, the company reimbursed the principal in 1850.

The State, though often solicited to do so, has in no one case constructed a railroad, or taken stock in one; but, following the precedent established in the case of the Delaware and Hudson canal company, many of them were aided by loans of State stock: and if the same care had been observed in making subsequent loans to railroad corporations, and the same good faith had been preserved by the companies, the aid of the State probably would not have been cut off from them by the new constitution. But the losses to the State on the account of these loans of its credit, amounting in the aggregate to seven and a quarter millions of dollars, caused such general repugnance to this use and abuse of the public credit, that the convention of 1846, with entire unanimity, ordained, (sec. 9, art. 7,) that "the credit of the State shall not, in any manner, be given or loaned to, or in aid of any individual, association, or corporation."

INTERNAL IMPROVEMENTS BY THE GENERAL GOVERNMENT.

Twenty years ago the people and government of the United States were deeply agitated by a conflict of opinion between the advocates of a general system of internal improvements by the United States government, and the opponents of that system. Mr. Adams believed that the Congress of the United States had a constitutional right to construct roads and canals through the several States, General Jackson not concurring with these views, rejected a bill which had passed both houses of Congress, making an appropriation to the Maysville road in Kentucky.*

The construction of works of internal improvement by the several State governments, and the wonderful progress made within a few years in the construction of railroads by associations of individuals, has relieved the general government from applications for the construction of roads and canals within the limits of the several States. It has done more than this: in Maryland, Pennsylvania, Ohio, New York, and Massachusetts, an expenditure of three hundred millions of dollars by the State governments and by individuals in canals and railroads, has raised up a powerful rival interest in those States to any interference on the part of the general government, for the promotion of internal improvements within their limits.

In looking back on the forty-five years struggle of the general government in getting a wagon road

* An abuse of these privileges inclined the canal board to exact toll on horse-feed, and all articles for the use of the boat;

* The Maysville veto does not extend to the improvement of harbors on the lakes—its objections are confined to the construction of roads and canals within the limits of the States;

from the seat of government to the Mississippi, and comparing this achievement with the construction and equipment of TEN THOUSAND MILES of railroad, accomplished by individual enterprize within the last twenty years—the conclusion seems irresistible, that the machinery of the general government is not necessary to carry on a general system of internal improvements through the several States.—Instances are very rare in which State lines present obstacles to the progress of a railroad, or are permitted in any way to interfere with a system of improvement for the advancement of the "general welfare."

STATISTICS OF THE INTERNAL TRADE OF THE COUNTRY.

Some of the railroads report the tons of produce transported. This ought to be exacted of all of them; and in order to make these returns useful, they should correspond with the tonnage reports of the canal department. In the canal reports the classification of the products corresponds with that adopted in the treasury department in the annual statement of the register's office, of the "commerce and navigation of the United States."

If statements similar to those which have been furnished by the canal department for the last fifteen years, respecting the trade and tonnage of the canals of New York, were required by the Legislature of each State, from all canals and railroads, whether owned by the States or by corporations, it would furnish a very interesting exhibit of the internal trade of the country. In this way a vast amount of statistical information might be obtained in an authentic form, without much trouble or expense.

REPORTS AS TO REVENUE AND PRODUCTS TRANSPORTED.

The canal department for many years has furnished for publication weekly statements of the amount of tolls received, and the quantity of products transported on the State canals. The railroad companies ought to be required by law to furnish similar statements for publications, of the products transported, and also of the sums received for freight and passengers. This information would afford a general view of the movement of the various products of the country, alike useful to fair business men and the public generally. So large a portion of the community is interested in railroads, either as stockholders or owners of their bonds, that a monthly, if not a weekly publication of the earnings of each road is due to those immediately interested in them, and business men generally require and are entitled to this information, in regard to a species of property which is changing hands daily, and mingles more or less in the business operations of the whole community.

Columbus and Xenia, and Columbus and Cleveland Depot Grounds.

The improvements that have already taken place upon these grounds, must be gratifying to every citizen of Columbus. Last March there was not a single building erected thereon. Now, there are seven structures for various purposes. First—the Depot house of the Columbus and Cleveland and the Columbus and Xenia railroads. This building is one of the handsomest Depot houses in the West. Its dimensions are—length 200 feet, breadth 50 feet.

The freight house of the Columbus and Xenia company, is a very neat structure, 150 feet in length by 40 in width. A better idea of the amount of goods shipped to this point can be obtained by taking a peep into this freight Depot, than by any other means. It is always full, and draymen are continually hauling goods and merchandize away.

The next building that met our observation, was the Machine and Blacksmith shops of the Columbus and Xenia company. In both of these shops there are sixty-one workmen constantly employed in repairing dilapidated Locomotives. At present there are but two engines on the stocks—the "Xenia" and the "Patterson." The length of the Machine shop is 120 feet, by 64 feet and 6 inches in breadth.

The next building of importance is the Engine house of the Columbus and Cleveland company. This is a semi-circular building, very neat in its construction, and capable of sheltering sixteen "iron horses." Adjoining the Engine house is the Wood house, belonging to the same company.—This building is 204 feet long.

Last, but not least, is the eating house of Chas G. Deshler. During the past and present seasons, Charley has bestowed a vast amount of labor upon this house, and notwithstanding its exterior does not present the most imposing or inviting appearance in the world, yet the internal arrangements are perfect. At a very great cost, gas has been introduced into this building, and the proprietor has spared no labor or expense to make it what it truly is, one of the best railroad eating establishments in the country.—*Ohio Statesman.*

Rates of Postage.

Newspaper rates, per quarter, when sent from office of publication to bona fide subscribers.

	For any distance not over 50 miles	Over 50 and not exceed'g 300 miles.	Over 300 & not exceed'g 1000	Over 1000 and not exceed'g 2000	Over 2000 and not exceeding 4000	Over 4000 miles.
Daily ..... cts	25	50	75	100	125	150
Tri weekly ...	15	30	45	60	75	90
Semi-weekly ..	10	20	30	40	50	60
Weekly.....	5	10	15	20	25	30
Semi-monthly .	2½	5	7½	10	12½	15
Monthly	1¼	2½	3¾	5	6¼	7½

Remarks referring to the above table.—From and after the 30th of June, 1851, for each newspaper, not exceeding three ounces in weight, the annexed rates per quarter are to be paid quarterly in advance. These rates only apply where the paper is sent from the office of publication to actual and *bona fide* subscribers.

Directions referring to the above table.—1st, Weekly papers, only, when sent as above stated, are to be delivered free in the county where they are published; and this although conveyed in the mail over 50 miles.

2d. Newspapers containing not over 300 square inches are to be charged one-quarter the above rates.

3d. Publishers of newspapers are allowed to exchange free of postage one copy of each number only; and this privilege extends to papers published in Canada.

4th. The weight of newspapers must be taken or determined when they are in a dry state.

5th. Postmasters are not entitled to receive newspapers free of postage under the franking privilege.

6th. Payment in advance does not entitle the party paying any deduction from the above rates.

Transient papers must be prepaid or they will not be sent. The rates are given below for the Courier, weighing under two ounces:—

Under 500 miles			2 cents.
Over 500,	and not over	1500	4 "
" 1500,	" "	2500	6 "
" 2500,	" "	3500	8 "
" 3500			10 "

Iowa.

Potosi and Dodgeville Railroad.—A public meeting was held at Potosi on the 11th ult. for the purpose of facilitating an early commencement of the work. Dubuque was well represented in the persons of Messrs. L. H. Langworthy and S. D Eaton; the latter being Chief Engineer of the Dubuque and Keokuk railroad North, and the former, one of the agents of the same company.

Dubuque has a direct interest in the early completion of the road to Potosi, as it brings near home another line of communication with the eastern markets, by way of the great lakes. Indeed, we are not sure but that the Potosi road, connecting as it will with the main road to Milwaukee, will be the most profitable for Dubuque.

One thing is very certain, and that is, a through road to Milwaukee, connecting there with the lake communication eastward, would be the best, because the cheapest, for the transportation of freight. Nor would there be much difference in time between this route and a continuous line of railroad; so if any thing were gained in cheap transportation, it would not be lost in time.—*Dubuque Herald.*

Compound Rail.

The Great Western railroad company of Canada West, have decided to adopt the compound rail, [patented by John F. Winslow, Esq., of Troy,] for their entire line of 228 miles; and the order for the iron has gone to England.—*N. Y. Tribune.*

This compound rail breaks the joint, does away with the use of cast iron chairs for the ends of the rails to rest on, and makes as it were one continuous rail the full length of the road, allowing with safety the greatest speed in travelling, without that incessant *clack, clack*, and jar experienced so disagreeably by nervous persons when going rapidly over it.

This rail has been adopted, and is now used on the New York and Erie, Hudson River, Utica and Schenectady railroads. The Madison company have purchased two hundred tons, a portion of which is now at Cincinnati, to relay the road from this to Vernon. The iron in this part of the road is light and considerably worn, and as this road is to transport to the Ohio the rich products of the Wabash and Upper Mississippi vallies, every improvement is introduced by its enterprising managers to make it equal to the task.—*Madison Courier.*

James River and Kanawha Canal.

This canal has just been opened to Buchanan 196 miles from Richmond. The Lynchburgh Virginian, in giving an account of the celebration, appends the following description of the works from Lynchburgh to Buchanan.

About one half of the distance only is independent Canal—the other half being slack water navigation. The towing path, which is either a bench cut out of the cliff, or a substantial embankment, is raised very high, and protected by a rip rap facing from the top to the bottom of the slope.

The head walls of the Guard Locks and wing walls and abutments of the Dams, are all carried up above the level of the highest fresh ever known. They are generally of rock dressed masonry.—Every structure of importance rests upon solid rock foundation. At the mouth of Cedar Creek, [the stream which is spanned, a mile or two up, by the Natural Bridge,] an Aqueduct of 50 feet span, on the suspension principle has been constructed. It was the original intention, to throw an arch of masonry across the stream, but, upon excavating the pit, for one of the abutments, to the depth of 17 feet below the bed of the creek, without obtaining a suitable foundation, the plan was changed to a wooden trunk, suspended from ten wire cables.—The lockage, from Lynchburgh to North river, amounts to 180 feet, from North river to Buchanan, 107 feet, total 287 feet. This is overcome by 17 lifts, below North river, and 9 above, making 26 in all, besides 11 Guard Locks.

Below North river there are 4 wooden and 3 stone dams, and above 4, all of wood, on account of the difficulty of procuring stone, and the cheapness of timber. Judith Dam, built of stone, 419 feet long, raises the water 20 feet, and is 33 feet high. Pedlar, Bald Eagle, and Big Island Dams are of stone also, and raise water from 12 to 16 feet each—the shortest, 350 feet, the longest 789 feet.

The Locks below North river are of various descriptions—cut stone, hammered, rubble and composite, according to the facilities afforded by the vicinity, with a proper regard to durability. The Locks above North river, are all of cut stone, and of most admirable workmanship. The Dams, as we have already stated, are of wood. They are as follows:

Quarry Falls Dam.	15	feet high	350	long
Varney's Falls "	18	"	430	"
Indian Rock "	19	"	600	"
Wasp Rock "	23	"	500	"

At Indian Rock, Wasp Rock, and the Balcony Rock, high bluffs have been cut down, in some places to the extent of 50 to 80 feet. We are pretty confident, that on no other improvement in the

United States have greater difficulties been successively encountered.

Alabama.

Alabama and Tennessee River Railroad Company.—A convention of the stockholders of this company met at Talladega, on the 18th and 19th inst. It was well attended by stockholders East of the Coosa. The greatest harmony, we understand, prevailed among the members of the convention.

J. W. Lapsley, Esq., was re-elected President, and the old board of directors, Col. Weaver, Col. Goldsby, Col. Wm. Curry, Major W. Reynolds, H. H. Allen, Esq., Wm. Plattenburg, Esq., Edmund King, Esq., and Gen. Conoley, were also re-elected. No abler President or board could, we think, have been selected. We are much pleased at the resnlt of the election, and we believe such are the sentiments of all those interested in the road. From the great interest Mr. Lapsley has taken in the success of the road from its inception to the present day—from the rapidity with which it has been pushed forward, under his able direction, to a speedy termination, every one looked for his re-election—as they will hereafter. In connection with this we would remark that application will be made to the Legislature to amend the charter, so that two additional directors can be added to the board, one from Mobile, the other from Benton county.

A report of the President and directors was read, showing the financial and general condition of the company. We will publish it in our next.

An able and highly interesting report was read before the convention by Lewis Troost, Esq., chief engineer. Of course it could not be otherwise than able, coming from the pen of Mr. Troost, and we have no doubt it is pregnant with interest from the subject on which it treats. It gave such satisfaction to the convention, that a large edition was ordered to be published, accompanied by a map.—It will appear shortly.

The best spirit prevails amongst the stockholders generally, especially those East of the Coosa river. The work of graduation, East of the Coosa river, is progressing rapidly, favorable proposals having been made for the graduation of the whole of the line East of that river, as well as for supplying most of the timbers. Favorable proposals have also been made for a graduation of a portion of the work between Montevallo and the Coosa river, most of it to be taken in stock.

On the whole we must congratulate all those interested in the success of this great work, on the very favorable prospects of its rapid completion.—*Selma Reporter.*

Indiana.

New Albany Railroad.—This important road, designed to connect the Ohio river with Lake Michigan, is steadily progressing.

At our request, Mr. Brooks, the President of the road, furnished us with the following facts:

The cars are regularly running to Orleans, fifty-seven miles, and doing a good business. About 8 miles more of the road will be finished as soon as the river rises to let the iron up. The road from New Albany to Michigan City will be 285 miles long, and with the branch from Gosport to Indianapolis, 45 miles, will make in all 330 miles. Of the main stem of the road from New Albany to Michigan City, means are now provided to finish and equip that part of the road between New Albany and Gosport, 113 miles, and between Crawfordsville and Lafayette, 26 miles, making in all 139 miles, or nearly one-half of this whole distance, and enough to grade and prepare for the iron the balance of the road with one hundred thousand dollars over towards its equipments.

That part of the road between Lafayette and Michigan City will be graded ready for the iron next year, 31 miles from Michigan City to the Kankakee river having been let last month. The balance of that part of the line will be let as soon as the engineers complete the location—say next month.

That part of the line between Gosport and Crawfordsville, 55 miles, will be located this winter, ready for letting in the spring; so that by next April the entire line between the Ohio river and the lakes will be under contract, and we only wait for the balance of the stock on the line between Gosport and Indianapolis to be taken to justify us in putting that part under contract in the spring.

With the stock already subscribed along the line we can get that done if we can get $50,000 taken at Indianapolis. Of the importance of this work or probable value of the stock it is unnecessary for me to tell you.—*Indiana State Jour.*

Virginia.

The Central Railroad.—We have had occasion of late to congratulate our readers upon the proof of activity and *go aheadativeness* which the Central railroad is furnishing in its steady progress westward. Without disparagement to any other improvement of Virginia, we cannot but consider this as unsurpassed in importance by any railroad in any State of the Union. We are perfectly well satisfied that, if the tax-payers of Richmond could visit the valley of Virginia and western Virginia themselves, they would declare with one voice in favor of pushing this railroad at once to the Ohio, and would give it their own aid with cheerfulness and unanimity. We referred a few days since to the fact that the Cincinnati and St. Louis railroad has been fully determined upon, and that, in the course of five years, those two cities will be connected by iron bonds. We need not build any air castles, if such they can be considered, as to the probability that St. Louis will yet be connected by railroad with San Francisco. We regard that as more than probable; but, placing that entirely out of the question, we have a region penetrated by this Cincinnati and St. Louis road of incalculable fertility and wealth. Cincinnati, thus united with St. Louis, is anxious to connect herself with the Virginia Central railroad on the banks of the Ohio. Kentucky is solicitous to rival Cincinnati in this purpose, by connecting her own projected line of railway with this improvement, by the construction of the Marysville and Big Sandy road, an important link in her chain of railroad communication from Marysville to Louisville and thence to Nashville. Here, then, Virginia has before her, by two good routes, the command of the whole west, if she will push forward the Central railroad and the James river canal to their completion. Richmond may with perfect ease be made the *depot* for the vast produce of the West, intended for shipment to foreign ports. All we need are facilities of cheap and speedy transportation. Richmond is nearer the great valley of the Ohio than any other port of shipment in the Union. This may be seen at a glance from the following estimate of distances. In a direct line, the distance.

From Cincinnati	to	New York	is 535 miles.
" "		Baltimore	400 "
" "		Richmond	360 "

By practicable railroad routes, the distance is as follows:

Cincinnati	to	N. York, via Baltimore,	780 miles.
"	"	via Buffalo,	900 "
"	"	via Dunkirk,	850 "
"	Baltimore,	via Wheeling,	700 "
"	Richmond,	via Chillicothe and Guyandotte,	596 "
"	New Orleans,	via Ohio and Mississippi rivers,	1567 "

It will thus be seen that, calculating from Cincinnati as a central point, Richmond is the *nearest*, and with a railroad extended to the Ohio, would be the *cheapest* and most *accessible* shipping for the enormous and incalculable trade of the west, in the United States. Here would the rich stores of the whole fertile region from the Ohio to the Rocky Mountains be unburthened. Is not such a prospect sufficient to encourage our citizens to the importance of pushing on the Central railroad at once to the banks of the Ohio?

Since writing the above, we have found the following cheering intelligence in the Staunton Spectator:

Good News.—We are informed by T. C. Ruggles, Esq., engineer of the Central railroad, that the laborers at this extremity of the Blue Ridge Tunnel have at last got through the hard rocks, which has heretofore retarded their progress, and got into sand stone. This is good news.—*Richmond Republican.*

Hempfield Railroad.

On the 18th ult., the Court of Common Pleas of this county, examined the election returns in reference to the county subscription to the Hempfield railroad, in pursuance of the late act of the Legislature, and made the decree that the County Commissioners execute bonds in the name of the county for four thousand shares of the capital stock of said road.

J. W. F. White, Esq., on behalf of those who are opposed to the county subscription, gave notice of their intention to resist the issuing of the bonds by the Commissioners, and to contest the validity and constitutionality of the act, and asked permission, which was granted by the Court, to file, during the present term, any exceptions or remonstrance to the proceedings, if they should desire to do so.

We understand that eminent counsel, of the Pittsburg bar, have been employed with Mr. White, to carry the question to the Supreme Court, and that they have expressed a decided opinion that the county subscription is unconstitutional.

The question is now in Pennsylvania, and we are not aware that it has ever been brought before the Supreme Court of our State. But in Kentucky, it has been decided that such acts are unconstitutional. At this time, there are probably five millions of dollars invested in railroads by different cities and counties of our State. If our subscription should be declared unconstitutional, it will be a virtual repudiation of those bonds. Will the Supreme Court make such a decision? We trust it will not—indeed, we have no fears that it will.

But the opposers of our subscription have an undoubted right to raise the question, and have it settled, and whatever the decision may be, it is the duty of all to submit cheerfully.—*Washington Republican.*

In the celebrated case of Rose vs. the Inhabitants of Bridgeport, the right of a town to take stock in a railroad, in its corporate capacity, was fully sustained. Similar decisions have been made in Maine, by Judge Ware, in reference to the subscription made by the town of Gardiner to the Kennebec and Portland railroad.

As a great number of our roads are built by means furnished by corporate subscriptions, it is of the highest importance that the question of the right to make them should be settled at once. For ourselves, we have no doubt they would be sustained.

North Carolina Railroad.

For the information of all interested, we extract the following account of the progress of this great work from the Greensboro' Patriot:—

It is indeed gratifying to note the progress of work on the railroad contracts in this vicinity. On every section in the county, except two or three, there are more or less hands employed.

Fields, Shelly & Co. have been at work for some time past, and we learn have their contract in a state of forwardness. We are not informed how many hands they have employed.

C. P. Mendenhall & Co., whose contract extends over six or seven sections (six miles in length,) have nearly thirty hands employed, and the number will be increased as fast as carts, etc. are prepared to facilitate the operations. This company have over three miles grubbed, and are now making headway in grading, and quarrying and hauling rock for culverts.

Messrs. Cole and Mebane, whose contract embraces two sections immediately west of town, are going ahead with an active set of hands, and will soon have their grubbing completed.

On their contract east of this place,—fourteen sections, from the Alamance line to a point south of Gov. Morehead's residence,—taken by Col. McLean and company, there are about seventy hands at work, at five different points. Some twenty-five hands are employed within the town corporation and vicinity, and have been principally at work, for the last two or three weeks, upon the culverts. The masonry at the culverts is done in

a most substantial manner; and is, we understand entirely approved by the Engineer.

The grubbing is finished some four miles east of town, and the grading will henceforth go steadily forward to completion. J. Gibson, Esq., a member of this company, has been engaged in grading for some time on the 1st section, near the county line. At several points between, grubbing and rock work, and we believe also grading, are going on. The number of hands on the whole of the McLean contract is increasing daily, and constantly accelerating progress is contemplated until the contract shall be finished.

We understand, however, that in Alamance, and in several points in Davidson, Rowan, and still further west, the "work goes bravely on."

American Railroad Journal.

Saturday, December 6, 1851.

Kentucky.

Covington and Lexington Railroad.—We have frequently taken occasion to speak of Kentucky, as an interesting field in the cause of internal improvements, and as the theatre of several important railroad enterprises. This State is somewhat behind her neighbors in point of time, but her people are making up for the loss by the energy with which they are pushing their works now in progress. Every part of the State is fully aroused, and each portion is now engaged upon its appropriate line. The whole surface of the State will soon become as checkered over by routes of railroad as is that of Ohio and Indiana.

Kentucky occupies the middle ground between the north and the south, and, extending from the Mississippi to the mountainous region of Virginia, must, for a long series of years, contain all the great lines of railroad connecting the north and the south, west of the Allegheny Mountains. The extension of all the roads in the States of Ohio, Indiana and Illinois, *south*, must pass through her territory. Her lines, therefore, in addition to their local objects, (with which view alone they are built,) at once connect themselves with the railroad system of the country, and are regarded as necessary in order to bring together, and make into a whole, the widely-extended net work which is spreading over the north on the one hand, and the south on the other. The people of the States just named feel almost as much interested in the roads of Kentucky as they do in their own; while in the south, the States of South Carolina, Georgia, Alabama and Mississippi, which are now pushing their lines north, look upon those of Kentucky as equally necessary to complete their connections, and give their own roads their full efficiency and usefulness.

The project of building a continuous line of railroad from Charleston to Cincinnati, under the direction of one company, was once the favorite idea in South Carolina. This undertaking was too great for the time, and of course failed. Since that period, the people on the route of the proposed road have not been idle. They have been quietly, but busily engaged, upon the various links which composed the great line, till at last, we find that without concert, and in comparative ignorance almost of what the different divisions have been doing, only about 180 miles out of some 900, the entire distance, remain to be placed under contract, and for which means are not already provided.—The grand project of Charleston and Cincinnati railroad is on the eve of completion, and a few years only will elapse before the cars will run from one city to the other.

The northern link in this great line is the road from Covington, on the Ohio river, opposite Cincinnati, to Lexington. The projectors of this road, though looking forward to the connections of which we have spoken, base their reasons for building their road upon considerations of local travel and business alone. Cincinnati and its environs are the great centre of trade for Ohio, and a large portion of Kentucky. Lexington, the southern terminus of the road, is well known to be the centre of the garden of the State, which, for fertility of soil, and agricultural wealth, is unsurpassed by any portion of the Union. The mere statement of the connections to be formed by the Covington road, will give a better idea of the importance of the route than any data as to the amount of existing traffic. It will constitute an appropriate outlet for an extensive portion of Kentucky, and the channel through which the same territory will receive its supplies of foreign merchandise. These facts must convince every person that the road must be a *paying* one; and when we add to its local traffic, its through business, when the connections referred to shall be completed, the capacity of the route for business will hardly be surpassed by any in the country.

In addition to the proposed extension of this road towards Charleston, there can be no doubt that a branch will be carried in another direction, to Nashville, Tennessee, which is now becoming a conspicuous point in the southern railroad system.—This extension is already provided for as far as Danville, Kentucky, 37 miles from Lexington. The Danville and Lexington company is organized, with sufficient means, we understand, to complete their road. From Danville the extension to Nashville will probably be carried east of Muldro Ridge, and through Glasgow. This fact may induce the Louisville and Nashville company to adopt for its road a portion of the above line.

We learn that all the grading and bridging of the Covington road is now under contract, and that the work is being pushed forward with vigor. The company are now in possession of ample means to carry it forward with all the energy consistent with economy. Negotiations we understand are now in progress for the purchase of iron for the whole line, to be delivered next summer. It is the intention of the company to complete their road with all possible despatch. Their affairs are in able hands, and are managed with decided ability. The company have adopted a rule to make all their payments on the line in *cash*, where stock contracts cannot be made on equally favorable terms. They have let their work at the lowest prices, and are determined to lose nothing by exorbitant shaves on their securities. The success which has thus far attended their efforts, and the able manner in which their affairs have been conducted, entitle their project to the confidence of the public.

Stock and Money Market.

The condition of the money market continues to present the same features that we have noted for some weeks past. Money, though reasonably abundant in the ordinary business channels, is in active demand, and can only be had at high rates by railroad and other companies, that are borrowers, to carry out their enterprises. The heavy shipments of gold that are steadily going forward keeps the public mind in a constant state of apprehension; and though our receipts have exceeded the exportation, yet we have been so long accustomed to apprehend disastrous consequences from the exportation of large amounts of the precious metals, it will take us some time to outgrow the habit, and look upon the shipment of our surplus coin in the same light that we do the exportation of corn and flour.

The above is one of the causes of the scarcity of money. Another is, that the demand is greater than the supply. We wish to invest faster than we produce. Scarcity from this reason may not indicate an unhealthy state of things, if our investments are well made; but it may bear heavily upon companies that are in a position requiring a large amount of money.

There is one fact which operates strongly in favor of our railroad companies, and that is, the strong confidence in the success of most of our roads as *paying* projects. This fact enables most of them to obtain money, at some rate, to carry forward their lines. We shall find that very few companies stop work from inability to raise the means to push ahead.

There has recently been an increased inquiry for first class securities. It is very difficult to give quotations, as the market value of nearly every security depends upon causes that have little to do with their intrinsic value. Bonds of new works range all the way from 75 to 90, though the average is nearer 80 than 90 cents on the dollar.

The rail market is dull, and contracts can be made upon exceedingly favorable terms.

The receipts of the Erie road for November are as follows:—

Passengers and Mail	$129,480 06
Freight	169,940 34
Total	$299,420 40
November, 1850	150,147 92
Increase	$149,272 48

The receipts of the New York and Harlem railroad company were:—

For November, 1851	$50,727 62
Do. 1850	40,776 82
Increase, nearly 25 per ct	$9,950 80

The "London Economist," of November 1st, expresses some very sensible views in regard to the imports of gold dust and the shipments of coin, as a medium of exchange. It is well worth the time required to read it:—

The condition of the United States, in relation to the export of bullion, is now altogether different from that in which it stood prior to the discovery of California. Up to that time the precious metals were not produced to such an extent anywhere as fairly to be included in the products of the country. The precious metals, were, therefore, only imported for the ordinary uses for which they are required in every country. An adverse exchange and a drain of bullion, therefore, proved that a balance was due to other countries above what the current produce of the United States provided for. A temporary derangement of the monetary affairs of the Union, and all the consequent results of discredit followed as a necessary consequence. Now, the case is entirely different, nor need the same disastrous consequences, which have hitherto attended a high rate of exchange for a considerable period, and a drain of bullion be expected to follow. Gold, like cotton and tobacco, has become one of the natural productions of the United States, and, like cotton and tobacco, is the natural representative of a large portion of the imports from other countries. The demand for goods and produce of every description for the consumption of California, is chiefly supplied from the Eastern and Northern States. To supply this demand, the imports are considerably increased, as has been the case in the last two years. As gold is the only produce with which California can pay the other States of the Union for the goods which they supply, so it is likely to

be employed to pay foreign countries for the imports which are received from them. In short, gold has become as much a produce of the United States, of which there is always a surplus to export in exchange for the extra quantity of foreign goods imported, as cotton, corn, or tobacco, or as the precious metals have long been from Mexico. And, therefore, when it is mentioned in some of the latest American papers as a most alarming fact, that specie to an amount of no less than fifty millions of dollars has been exported during the last eighteen months, it is in reality the same in effect as if it were said that the same amount of cotton or wheat had been exported.

It is only saying, that of the gold which had been produced in California and sent to the other States during that period, amounting in value to upwards of £15,000,000, the value of £10,000,000 has been exported.

But then it is necessary to consider the effect which that export has upon the rate of exchange, in order to divest that symptom of the terror which, naturally, from past experience, attaches to it.—The large imports of gold from California far exceeding the ordinary demand of the United States, the value of that metal necessarily sinks until it reaches the rate at which it can be exported; and consequently the exchange rises to that rate—viz., any figure above 110¼—at which gold can be imported into this country without loss. So long, therefore, as there is a surplus of gold to be exported, the exchange must continue at such a rate as will admit of that operation.

For these reasons, we see no ground for the apprehensions so generally expressed at the high rate of exchange at New York, and the extensive shipments of bullion which have latterly taken place, and which, it appears, are likely to be resumed.—On the contrary, they only indicate the increased trade with Europe which has been created by the settlement of California, which has not only created a new market for our goods, but has also furnished a new product, so far as the United States are concerned, for the payment of their increased imports. So far from entertaining any apprehension on account of the export of bullion from the United States, as far as the trade of the coming year is concerned, we regard it rather as a reason why that trade should continue to increase as it has done of late years, in order to supply the new wants to which this new production of the United States is every day giving rise.

The Evening Journal gives the annexed statement of the quantity of flour, wheat, corn and barley, left at tide water during the 4th week in November in the years 1850 and 1851, as follows:

	Flour. bbls.	Wheat. bush.	Corn. bush.	Barley. bush.
1850	301,500	490,215	35,419	93,066
1851	118,162	111,388	141,357	111,348
Dec	183,338	378,827	Inc. 105,138	18,282

The aggregate quantity of the same articles left at tide water from the commencement of navigation to the 30th Nov., inclusive, during the years 1850 and 1851, is as follows:

	Flour. bbls.	Wheat. bush.	Corn. bush.	Barley. bush.
1850	3,170,272	3,556,551	3,219,476	1,723,914
1851	3,322,747	3,111,331	7,658,472	1,798,129
Inc.	152,475	de. 445,220	In. 4,438,996	74,225

The aggregate quantity of the same articles left at tide water from the commencement of navigation to the 30th Nov., inclusive, during the years 1849 and 1851, is as follows:

	Flour. bbls.	Wheat. bush.	Corn. bush.	Barley. bush.
1849	3,191,864	2,667,803	5,053,599	1,390,737
1851	3,322,747	3 111,331	7,657,472	1,798,139
Increase.	130,883	443,529	2,604,913	407,402

By reducing the wheat to flour, the quantity of the latter left at tide water this year, compared with the corresponding period of last year, shows an increase of 63,499 bbls. of flour.

Canal Tolls.—The amount of tolls received at the Canal Collector's office at Albany during the season of navigation in 1851, was....$358,457 59
Same period in 1850..... 312,653 68

Increase..... 45,804 01

The aggregate amounts received for tolls from the commencement of navigation to and including the 22d ult., and for the third week in November for the following years were:

	3d week Nov.	To 22d Nov.
1851	$119,649	$3,291,488
1850	171,098	3,198,796
1849	154,406	3,196,173
1848	120,683	3,218,175
1847	96,274	3,610,196
1846	107,272	2,722,760
1845	110,401	2,620,533

New Haven and New York Railroad.—The receipts of this road for November are as follows:

Passengers	$44,874 59
Commutation	411 91
Freight	7,500 00
Total	52,786 50
Paid Harlem road for 42,720 passengers	3,804 23
Net receipts	48,982 27
November, 1850	43,859 92
Increase	$5,122 35

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE

AMERICAN RAILROAD JOURNAL.

NEW YORK DECEMBER 6, 1851.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	101¼
U. S. 6's, 1856	103½
U. S. 6's, 1862	110½
U. S. 6's, 1862—coupon	114½
U. S. 6's, 1867	115
U. S. 6's, 1868	115
U. S. 6's, 1868—coupon	122½
Land Warrants	140a145
Arkansas 6's	52a53
Alabama 5's	91a92
Indiana 5's	85
Illinois 6's, 1870	65a68
Kentucky 6's, 1871	104½a106
Massachusetts sterling 5's	105a106
Massachusetts 5's, 1859	100½
Maine 6's, 1855	103
Maryland 6's	102½
Michigan	—
Mississippi	—
New York 6's, 1855	103½
Ohio 6's, 1860	109
Pennsylvania 5's	91

RAILROAD BONDS.

Atlantic and St. Lawrence, 6 per cent	85
Baltimore and Ohio, 1867	94½
Boston and Providence 6's, 1855	101
Boston and Worcester 6's, 1855, convertible	107½
Bost., Concord and Mont. 6's, 1860, mortgage	87½
Cheshire 6's, 1860	91½
Connecticut River 6's, convertible	89
Erie 7's, 1859	101
Erie 7's, 1868	106
Erie income 7's	94½
Hudson River 7's, 1863	101½
Michigan Central, convertible, 8's, 1856	104½
New York and New Haven	100½
Norwich and Worcester, mortgage, 1860	80a85
Old Colony, 1854	97½
Ogdensburg 7's, 1859	93
Portsmouth and Concord	80a85
Passumpsic 6's, 1859	94½
Rutland 7's, 1863	90
Reading mortgage, 1860	78
" " 1870	70
Sullivan, mortgage 6's, 1855	67
Vermont Central 6's, 1852	90
" " 6's, 1856	85
Vermont and Massachusetts 6's, 1855	84

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Nov. 26.	Dec. 3.
Albany and Schenectady	89½	95
Atlantic and St. Lawrence	60a65	—
Androscoggin and Kennebec	30a35	—
Boston and Maine	106½	105½
Boston and Lowell	108	109
Boston and Worcester	103½	103½
Boston and Providence	89½	89½
Bost., Concord and Montreal	36	35½
Baltimore and Ohio	67½	—
Baltimore and Susquehanna	34	—
Cheshire	47	45
Cleveland and Columbus	—	—
Columbus and Xenia	—	—
Camden and Amboy	—	—
Connecticut River	60	—
Delaware and Hudson (canal)	108½	100
Eastern	99½	99½
Erie	88	87½
Fall River	97½	94
Fitchburgh	110½	110½
Georgia	—	—
Georgia Central	—	—
Harlem	67	67½
Hartford and New Haven	122	—
Housatonic (preferred)	—	—
Hudson River	70	70
Kennebec and Portland	50a55	—
Little Miami	—	—
Long Island	15	16½
Mad River	—	—
Madison and Indianapolis	90	93
Michigan Central	105	108½
Montgomery and West Point	—	—
Michigan Southern	—	—
Manchester and Lawrence	70	—
Morris (canal)	14½	14½
New York and New Haven	108½	108½
New Jersey	—	130
Northern	68½	68
Nashua and Lowell	104½	—
New Bedford and Taunton	108	—
Norwich and Worcester	57	55
Norfolk County	14	15
Ogdensburgh	30	29½
Old Colony	66	65
Passumpsic	70½	72
Pennsylvania	—	—
Pittsfield and North Adams	95	—
Philadelphia, Wilm'gton & Balt.	28½	28½
Petersburg	—	—
Richmond and Fredericksburg	—	—
Richmond and Petersburg	—	—
Reading	58½	60
Rochester and Syracuse	110	111
Rutland	40	43½
Stonington	51½	44
South Carolina	—	—
Syracuse and Utica	123½	—
Sullivan	15a20	—
Taunton Branch	108	110
Troy and Greenbush	90	—
Tonawanda	—	—
Utica and Schenectady	127½	127½
Vermont and Canada	97	99½
Vermont Central	26	26½
Vermont and Massachusetts	27½	27½
Virginia Central	—	—
Western	103½	103½
Wilmington and Raleigh	56	—
York and Cumberland (Pa.)	19½	—

Maine.

Kennebec and Portland Railroad.—The Gardiner Transcript announces that the track of the Kennebec and Portland railroad is now laid to the depot in that city; and arrangements have been made to commence running from thence regularly on and after last Monday. The work of laying the rails has been commenced in Augusta, and is rapidly progressing all along the line between Gardiner and Augusta. The depot buildings at Augusta are also going on rapidly. On the railroad from Gardiner to Augusta, the rails are to be laid on longitudinal timbers, the same as from Bath to North Yarmouth. From Gardiner to Brunswick, and from North Yarmouth to Portland, the rails are laid on transverse sleepers. The longitudinal timbers make the easiest riding road.

The Michigan Central, Ogdensburg, and Canada Railroad Connection with Boston.

New York city has an especial interest to prevent the Canada trade from being diverted to Boston. The St. Lawrence and Atlantic route has already secured the Montreal trade, and with much of the business of the eastern portion of Canada West. Boston, again, bids high for a preference over New York, by means of the Ogdensburg road, to which there has already been diverted from the Central New York railroad and the Erie canal a large amount of freight and passenger traffic that would otherwise have found its way to this city.—But these results are comparatively of trivial moment with those which must flow from the connecnection which Michigan, Canada West, and Boston are about to consummate. Let but the Great Western (Canada) line of railway, now in course ot construction from Windsor, opposite Detroit, to Hamilton, on Lake Ontario, be connected with the Ogdensburg road leading to Boston, by means of fast sailing lines of steamers on the lake, and a line of travel then becomes established that will secure to Boston not only the trade of the whole of Canada, west of Lake Ontario, (a rich and prosperous peninsula country, which contains at least ten million acres of land of unsurpassed productiveness and already numbers nearly half a million inhabitants;) but such direct route will offer no common inducements for the trade of Michigan, Wisconsin and other Western States to follow in the same direction.

The threatened diversion of these more remote, but important tributaries ot New York's greatness, as a commercial city, needs but to be stated to create a well grounded alarm. It is plain that New York must not be content to hold her own, merely, against her powerful rival. To maintain her supremacy, there must be corresponding exertion.—Should she even remain stationary, retaining her present amount of business from the sources indicated, the increase of the productiveness of these growing regions of country, if diverted from her, would alone, in a few years, suffice to build up, at her expense, her formidable rival, to eclipse her already coveted pre-eminence as the chief emporium of American commerce.

The demonstration lately made by Boston upon the completion of her new lines of railway communication, in order to attract the Canada trade, is of too significant a character to be passed by unnoticed. However lightly we may affect to think of the means resorted to, they have exerted a powerful influence in making known to Canadians the facilities which Boston possesses for the transaction of business with Canada, the cheapness and directness of her lines of travel to the Atlantic board, and her speedy and direct communications with the ports of Europe.

Can our citizens look upon these things as of no moment to their interests? Does not daily experience demonstrate how greatly the channels of commerce are affected by new lines of communication? Does it not also show us how the stupendous invention of modern art—the iron way—may be made to open up to the old established seats of commerce new fields of enterprize, whose wealth and resources become tributary to their growth and prosperity? Boston has shown that she is fully alive to the stimulating urgency of these considerations. Let New York, already behind hand with her, awake to the imminence of the danger which imperils her trade, but which our citizens, by putting forth (in addition to what they have already done) but a a tythe of the energy and means used by Boston to compass the like end, may yet, notwithstanding, seasonably avert.

Having hinted at these well founded causes of apprehension, we should do a simple injustice to the enterprize of our citizens, did we fail to connect, with merited encomium, that which yet remains to be done, with the magnificent lines of communication, in every way worthy her leading position, which have already been consummated. Her New York and Erie, her Hudson River, and central lines of railroads, place her in a proud position, not only as regards America, but with the world. Her Erie canal is without a rival. But our space debars us from dwelling upon achievements of such inestimable value to the best considered interests of humanity. We say *humanity*; for the wide scope of human well-being and of human suffering they promote or mitigate may well be said to be co-extensive with the human family. In a word, we may safely venture to assert that there does not exist throughout the wide world any system of physical change, wrought by human device, which has been equally disseminative of benefits to mankind.

But the successful accomplishment of these leading projects of internal improvement proportionably magnifies the importance of securing the full measure of their benefits. Our city now drains the commerce of the Hudson River country, the Mohawk and Gennessee valleys, the intermediate sections lying east of Lake Erie, and the trade of the upland southern counties of this State. These form her immediate stay and support. The vast regions beyond these points that are now reached by Lakes Erie, Huron and Michigan, are alike tributary to her prosperity. Aided by the appliances of human skill and ingenuity to the cultivation of the soil, the virgin bosom of their untold acres of exuberantly fertile land, continues to give forth with almost illimitable productiveness, the great staples of human support. Hitherto these have reached New York by the Erie canal, the central line of railroad and Hudson River. Following the channel of this commerce, the living streams of western and eastern travel have taken the same route. Western merchants, New England settlers seeking new locations in the far west, the continuous flow of emigrant travel have alike found their course to lie along our western lines of communication; making New York the grand recipient of their whole productiveness, while she in return has furnished their whole supplies of merchandize.

Is it not well that our citizens should understand that it is the diversion of this great trade which has made New York the store-house of nations, and which is being imperilled by the lines of communication progressing through Canada to connect the Wilmington Central railroad with the Ogdensburg route to Boston that is to be guarded against?

Were the Canadian line of road, known as the Great Western, under the control of a direction interested alike at all points of this line, less of danger to New York interests might be apprehended. A portion of the commerce and traffic of western Canada and of the States beyond (which her geographical position divides from New York) would continue to take its accustomed route. But with a Board of Directors, three-fourths of whom are merchants and business men resident at Hamilton, who have already shown their desire to monopolize the local trade of the western section of Canada by running their line away from every enterprising town and village lying west of them for one hundred miles, and who as one-half the whole cost of their road is to be advanced by the Provisional Government and two-thirds of the balance by the local municipalities, have themselves contributed but little capital towards its construction and are more solicitous that it should benefit their own city than be in itself a prosperous enterprise; and as their interests would also be further promoted by the lines of steamers to connect with Ogdensburg running to their port; we do not hesitate to say, that with such a direction the Boston and not the New York interest must predominate.

A single fact will make this apparent. The city of Hamilton is built upon a narrow strip of country nearly on a level with Lake Ontario at the base of a range of heights some 300 feet above the water level. The whole remaining Western peninsula bounded by the Niagara, Detroit, and St. Clair rivers, and by Lake Erie and Lake Huron lies upon this upper level. Had it been designed to promote the interests of New York and of her central line of railroad, the Great Western line, after reaching the eastern terminus on this upper level, would have extended itself thence on the same grade to the Niagara river. What, however, has been their course? At an enormous outlay, they descend to the water's edge by a continuous grade of 45 feet to the mile, for a distance of twelve miles; and again, following the narrow strip of land running along the base of this range of heights to the Niagara river, they ascend the same elevation to reach a proposed terminus near Niagara Falls. Is it for a moment to be imagined that with the advantage of fast lines of steamers plying direct from Hamilton to Ogdensburg, the circuitous descending and ascending route to Niagara Falls will command one tenth part of the travel that Boston will secure by means of the Ogdensburg line?

Thus, identity of interest between the Boston, Ogdensburg, the Michigan Central, and the Great Western [Canada] Roads is not to be gain-sayed.

Will it be believed then that this connection is about to receive the powerful support of the companies owning the New York central line of railroad? That great exertion is now being made to induce the Utica and Syracuse, the Albany and Schenectady, and the Syracuse and Rochester companies to take one million stock in the Great Western Canada line? That with a most singular obliquity of judgment, Mr. E. Corning, president of the Utica and Schenectady road, has used his influence to get that company to take $200,000 stock, and that but for the apprehension that their means would but serve to foster a rival route, the stockholders of the other companies might have been equally led to promote a railway interest directly antagonistic to the prosperity of all our Western lines of travel? The returning good sense of our citizens owning stock in these companies, will, it is hoped, induce them to beware not to adopt a course which is literally suicidal to their own best interests as stockholders.

OBSERVER.

Buffalo, Nov. 25th 1851.

Atlantic and St. Lawrence Railroad.

The section on the line of this road, extending from the Connecticut river to Island Pond, has been placed under contract. The balance of the line to the boundary will be immediately let.

New London, Willimantic and Palmer Railroad.

We have received the recent report of the directors of this road. The results thus far have been quite favorable. The whole line has been in operation only 13 months, and the receipts during that time have averaged nearly $9,000 per month. The income of the company from the commencement of the running of the trains, to the first November, 1851, was:

From passengers and express	$104,830 12
From freight	59,349 16
From mail service	2,930 90
From rents	1,349 63
	168,459 81
The expenditures for the same period, for operating and repairs of road, have been	86,200 22
Net income	82,259 59
Interest paid on bonds and loans to this date, inclusive	66,541 12
Leaving a balance to the credit of earnings, of	$15,718 47

The receipts to the 13th November, 1850, were $66,404; and from 13th November, 1850, to 1st November, 1851, about 11¼ months, the receipts have been $102,055 81—showing an increase of more than 50 per cent. over the receipts of last year; and this, too, under many embarrassing circumstances, and during a period of great depression in the manufacturing business on the line of the road and throughout the country.

The capital stock of the company authorised by the united charters from Connecticut and Massachusetts is $1,700,000. The liabilities are:

Stock subscribed	$528,500 00
Of which there remains unpaid	35,266 57
	493,233 43
Scrip issued for interest convertible into stock	30,361 23
	523,594 66
Seven per cent bonds	500,000 00
Six "	300,000 00
Balance of earnings	15,718 47
Floating debt	111,097 57
	$1,450,410 70

The cost of road and equipment to November 12th is as follows:

Land, land damages and fencing	$184,754 90
Graduation and masonry	407,766 88
Iron	311,233 56
Superstructure of wood	92,019 83
Bridges	84,965 08
Stations and buildings	56,063 87
Locomotives and cars	104,209 81
Engineering and miscellaneous exp	49,927 12
Interest on notes and accounts	23,745 14
Discount on bonds	104,363 28
Scrip issued to stockholders for interest	30,361 23
	1,450,410 70
The expenditure per last report, Nov., 1850, was 1,333,000	
Estimated then to complete 57,000	
	1,390,000 00
	$60,410 70

The excess of expenditure above the estimated sum arises from the numerous unsettled accounts at that time, and the extra cost of land, land damages, graduation, masonry, etc.

The directors estimate that a sum less than $20,000 will be sufficient to close up all unsettled accounts, and to complete the road, except making the connections at Norwich and New London.

When completed, the road will cost less than $23,000 per mile, which, though a larger sum than was expected, is at a much less rate than the cost of any other road of equal material, in New England.

When the roads leading northerly from Palmer are completed, and the connections made with the Norwich and Worcester, and New Haven and New London roads, this road must necessarily prove a very profitable one. There will then be a continuous line between New London and the Canadas; and from the fact that Norwich has an excellent harbor, it is believed that a portion of the northern travel will seek an outlet there, which is now attracted to Boston, New York, and other commercial ports. As the New London, Willimantic and Palmer road will form part of this line, all the trade between New London and the Canadas will pass over it. The local business of the road alone will amply pay for its construction, and the accession of trade which it will derive from Canada and the lakes will enable the stockholders to realise a very handsome profit from it.

Buffalo and Brantford Railroad.

This road commences at Fort Erie, nearly opposite Buffalo, and extends to Brantford, near which it is to connect with the Great Western railroad. The country through which it runs is extremely fertile and well settled.

At Caledonia, about 18 miles from Brantford, the plank road from Hamilton to Port Dover intersects the route which will assuredly bring to the railroad a large amount of traffic.

Brantford is at the head of the navigable portion of the Grand river. The population of the place is about 5,000, and it is situated in the middle of one of the best wheat growing districts in the Province. As water power can be obtained there to almost any extent, the completion of the road will undoubtedly be the means of bringing it into extensive and varied application.

As an illustration of the amount of traffic that may be expected on this road, Brantford alone paid during last year for teaming on the plank road to and from Hamilton $16,000, and in the same year 600,000 bushels of wheat were brought into Brantford; and it is believed that the quantity for the present year will be upwards of one million of bushels.

During the same period, 30,000,000 feet of lumber were turned out by the various mills along the river.

This will ensure to the road a good local business, and as it forms the shortest route in connection with the Great Western railroad between Detroit and Buffalo, the immense traffic between those two ports, which now passes over Lake Erie will be transferred to the railroad. The great tide of western travel which flows towards Buffalo over the railroads converging to that point, will take the Buffalo and Brantford railroad to its junction with the Great Western, and thence be carried on to Detroit, and the travel eastward from Detroit will take the same route.

The road can easily be constructed. *More than half* of the distance traversed is level, or under ten feet per mile, and the maximum grade is 30 feet per mile, extending for a distance of eight miles. The sharpest curve has a radius of one mile, and seventy miles of the whole distance is *straight line.*

The whole cost of the road is estimated at only $800,000, or but little more than $10,000 per mile. The cheapness of the road, together with the immense amount of traffic which may be expected to pass over it when completed, cannot fail to render it highly profitable.

Railroads in Indiana.

We give below a list of the railroads in Indiana which are either completed, or which are in such a state of forwardness, that they will be finished within a year from this time, with the exception of the Ohio and Mississippi, and some portions, probably, of the New Albany and Salem roads:—

	Miles.
1. New Albany and Salem	344*
James Brooks, New Albany, President.	
2. Jeffersonville	66
W.G. Armstrong, Jeffersonville, Pres't.	
3. Madison and Indianapolis	86
John Brough, Madison, Pres't.	
4 Shelbyville branch	16
W. P. Stevens, Shelbyville, Pres't.	
5. Rushville branch	20
—— Hubbard, Rushville, Pres't.	
6. Knightstown branch	27
H. B. Hill, Carthage, Pres't.	
7. Lawrenceburgh and Indianapolis	90½
G. H. Dunn, Lawrenceburgh, Pres't.	
8. Indiana Central	71½
Wm. H. Newman, Centreville, Pres't.	
9. Richmond	4
10. New Castle and Richmond	28
J. T. Elliot, New Castle, Pres't.	
11. Indianapolis and Bellefontaine	83
O. H. Smith, Indianapolis, Pres't.	
12. Peru and Indianapolis	72½
John Burke, Indianapolis, Pres't.	
13. Lafayette and Indianapolis	68
A. S. White, Lafayette, Pres't.	
14. Crawfordsville	26
I. C. Elston, Crawfordsville, Pres't.	
15. Terre Haute and Indianapolis	72
Chauncy Rose, Terre Haute, Pres't.	
16. Evansville and Illinois	50
Samuel Hall, Princeton, Pres't.	
17 Martinsville branch	29
18. Indiana Northern	135
Geo. Bliss, Springfield, Mass., Pres't.	
19. Extension of the Greenville and Miami	10
E. B. Taylor, Pres't.	
20. Ohio and Mississippi	160
A. T. Ellis, Cincinnati, Pres't.	
Total	1,458½

In addition to the above, which are either in operation or in progress, we have a number of projected lines, which will soon be commenced upon. The more important of these are, the proposed road from Peru north, to intersect with the Indiana north, 62 miles. The line from Fort Wayne, in the direction of Chicago. A road will soon be in progress from Galion, or Crestline, Ohio, to Fort Wayne. It is also contemplated to extend the Evansville and Illinois road from Vincennes to Terre Haute, a distance of 60 miles. It is also the design of the New Castle and Richmond road to extend their line in the direction of Chicago, via Logansport. Measures are in progress to construct a road up the Wabash valley from Lafayette to Logansport. This road will, without doubt, be extended up the valley of the Wabash to Toledo. The extent of the line projected, which will soon be under contract, will carry the aggregate in the State up to 1,800 miles, the greater part of which will be completed within three years.

All this immense work will be the result of a few years. The railroad system of Indiana, instead of requiring a long time to mature and complete it, as has been the case in the older States, will spring at a bound into existence, and active operation.—From the favorable nature of the country, railroads can be built with great ease in every part of the State; and so cheaply, that they are within the compass of every well-settled district. We doubt whether there is a State in the Union that has dis-

* With the branch to Indianapolis and to Chicago.

played greater enterprise in the construction of their roads, or which has accomplished more in as short a period. In a few years, every farmer within her territory will be in convenient distance of a railroad. The same can hardly be said of any other State in the Union.

We have already begun to see the influence which her roads are beginning to exert. Wherever they have been opened, they have more than doubled the value of real estate. They have added vastly to the exports of the State, by opening outlets for them. They have given Indiana a conspicuous position among her sister States, and have restored to her the financial credit which she lost by her failure under the State system of internal improvements. The success of her people in the construction of railroads, shows how much more can be accomplished by individual effort, than by the State in its collective capacity.

State Internal Improvement Convention in Arkansas.

A numerously attended convention of the friends of internal improvements in Arkansas was held at the capital on the 5th ult. It was organised by the appointment of Col. Henry M. Rector president, and C. Langtree secretary.

The object of the convention was to organise public sentiment, and direct the energies of the State to the construction of some leading lines of railroad, which should develop its resources, and stimulate the industry of its people. It was suggested that one of these roads should be constructed from Little Rock to the White river, and another to Benton. A resolution was also adopted to establish "an Independent Journal, devoted to Internal Improvements, Education, and kindred subjects, at the seat of government, to bring before the minds of the people such information as will lead to correct views, and practical results—to aid in developing the great mineral wealth now lying hid within our borders, and to furnish such statistical information as may be useful and necessary as the basis of future action, and generally to diffuse such wholesome truths as will be calculated to elevate us abroad, to bring into action the energies of our now depressed people, and to push on to completion this work of internal improvement, by which alone our State may hope to attain her proper position in the Union; which Journal, to be effective, shall be separate from, and independent of, all political parties."

The convention also resolved "that it is of vital importance to the prosperity of the whole people of Arkansas, that a *railroad* be established from the seat of government to some eligible point on the Mississippi river, as soon as practicable, connecting us with our sister States, and with the great southern emporium, to be extended thereafter from the heart to different extremes of the State, and by lateral roads as the interest of the community may require.

2. That a permanent central committee be raised by this convention, to consist of five members, whose duty it shall be to take the preparatory steps for the location and construction of such road from Little Rock to White river, and, if deemed expedient hereafter, to be extended to the Mississippi river, and to act in harmony, as far as practicable, with the internal improvement commissioners, and any boards of internal improvement which may be formed in the State.

3. That such permanent committee shall immediately cause books of subscription for stock to be opened, under the direction of such persons as they may designate, and at such places as they may deem advisable, both within and without the State, if they deem it expedient; and, whenever the sum of fifty thousand dollars shall have been subscribed, including such sums as may or already will be pledged to the work by members of this convention, they shall call a meeting of the subscribers for stock, a majority of whom, with such committee, shall immediately organise an incorporated company, under and in conformity with the general corporation law of this State, for the purpose of building said road at least as far as White river, with such capital as may then have been subscribed, and to be increased to a sufficient amount in shares of one hundred dollars each, and shall elect a president and directors, under their organisation, who shall cause the proper surveys to be made, and commence the work.

4. That we pledge ourselves, not only to this specific work, but to encourage and sustain other works of like kind connected with it, or in extension of it, until the great agricultural and mineral resources of our State, now comparatively dormant or in embryo, become developed, and our State assumes the proud attitude to which her position and her boundless sources of hidden wealth so justly entitle her.

5. That each and every internal improvement commissioner in the State be, and is hereby, specially requested to retain in his possession such portion of the internal improvement fund as he now has, or may hereafter come into his hands, without applying the same to any local or temporary work, until unity of action may be obtained, and such fund applied to some general and permanent work, in which the whole State may be interested, and in conformity with the intent of the original grant by Congress."

The convention also declared that the public lands donated by Congress to the State of Arkansas, ought to be applied to works of internal improvement, and its members pledged their efforts to effect a repeal of the present law, by which the proceeds of such lands are to be distributed among the counties.

The convention was composed of the leading men in the State, and its proceedings were conducted with a spirit which promises the best results. Addresses were made by the President, Messrs. F. W. Newton, Edmondson, Cissell, Beebe, Col. Fowler, J. H. Crease, the Governor of the State, Mr. Fletcher of New Orleans, and numerous other gentlemen.

A committee, composed of Messrs. Roswell Beebe, Col. Thomas W. Newton, Gen. W. E. Ashley, Col. A. Fowler, and Geo. C. Watkins, Esq., were appointed to take the preparatory steps for the location and construction of a railroad from Little Rock to White river, and the convention adjourned to meet at the capital on the 2d of February next.

The above we believe to be the first movement of the kind that has ever been made in Arkansas. If vigorously followed up, it bids fair to place that State in a very different relative position, compared with that which she at present occupies. Arkansas is one of the richest States in minerals in the Union, possessing vast coal and iron fields, and abounding in lead, copper silver, gypsum, emery, manganese, soapstone, marble, dolomite, zinc, and some of the precious stones, such as the *Lapis Lazuli*, etc. She possesses a great extent of excellent soil. What she needs is a public spirit which shall open outlets for her natural resources, and they will soon be turned to account. Let her imitate the example of some of her sister States not much older than herself—Illinois and Indiana, for instance—and the elements which she possesses within herself will raise her to an equal pitch of greatness, and public consideration. As she is, and has been, she is probably of the least account of any State in the Union. Such her own citizens feel to be the fact, and they are resolved that she shall continue so no longer.

Railroad in the Provinces.

The Legislature of Nova Scotia have passed the Government railroad bills. As Canada has already done the same thing, two of the three parties have assented to Mr. Howe's arrangement. That New Brunswick will follow the example of her sister provinces we have hardly a doubt. A project that involves the expenditure of 30 or $40,000,000 will pretty certainly carry itself, especially, as in the above case, where the money can be had for the asking. Such a project is sure to make friends as it goes along, particularly when the money is to be disbursed by a few hands. We predicted in the outset, that the *magnitude* of the project would ensure success.

If New Brunswick agrees to the terms imposed upon her, and the work be commenced and pushed with the vigor which abundance of means will be likely to impart, the amount of money expended, will give a very busy aspect to the Provinces and our northern frontier. As the Provincial line will sweep around our territory for a long distance, our people will then cut numerous radi to intersect it. In this way it will become a useful and important work as far as we are concerned. Whether profitable or not as a business enterprise, it must exert a strong influence in developing the resources of New Brunswick and Nova Scotia.

These two provinces are hardly surpassed in natural wealth by any portion of this continent.—This has lain dormant from the lack of enterprise to turn it to account, and for the want of a market to give it commercial value. These, the proposed railroad will to some extent supply. Should it be accomplished, it would put a new face upon affairs in the Provinces.

Liability of Railroads.

Verdict against the New Haven Railroad Co.—The New Haven Journal reports the case of Roswell Hood vs. the New Haven railroad company, which was tried at the October term of the Superior Court in that city. Mr. Hood, on the 15th of January last, bought a ticket at the office of the railroad company in New Haven, entitling him to a passage to Collinsville, Conn. He took the cars for Plainville, and there the conductor of the train took his ticket, and gave him in exchange a check entitling him to a seat in the stage from Plainsville to Collinsville. On the road, the stage was upset, and Mr. Hood's right leg was broken. For this injury he claimed damages.

For the defence, it was contended that the company as a corporation had no power to contract to carry passengers by stage, and that if they *had* such power, they were not liable in this case. That the railroad and stage were distinct and separate lines, and did not participate at all in profit and loss, but passengers were ticketed through for the convenience of such separate lines as well as for the convenience of the passengers themselves. It was farther argued that the accident was unavoidable. The plaintiff, however, produced evidence to show that it was the result of carelessness, and the jury seem to have been so convinced, for they awarded the plaintiff $3,400 damages, and costs.

Damages against the Naugatuck Railroad Co.—In the Superior Court at New Haven, Erastus Burr and wife, and Harriet Lum, have successfully brought actions against the Naugatuck railroad company, to recover damages for injuries received by the overturning of a car on the 5th of October, 1849. It was claimed there was negligence on the part of defendant. Verdict for plaintiffs in each case, for Burr and wife $1,000, and for Mrs. Lum $8,500.

Trautwine on Curves, and on Cubic Contents.

We are glad to present the following remarks on these books, as confimatory of our own opinions, expressed in a former number. They are extracted from a letter written by one of our best known Civil Engineers, a gentlemen distinguished alike for his successful practice, and scientific acquirements:—

Pittsburg, Nov. 25, 1851.

Sir—I have examined Mr. Trautwine's book on Railroad Curves, as well as his new method of Calculating Excavations and Embankments, which you did me the honor to submit to my inspection. Such books have long been a desideratum to the profession, and Mr. Trautwine has very ably supplied the want.

His mode of calculating cuttings and fillings is at once *novel, rapid*, and *correct;* and it is much to be hoped that it will be generally adopted. That it will rapidly find favor with our Civil Engineers, I do not doubt.

His book on Curves is compendious and clear; it embodies nearly all the problems of curvature necessary to be solved in the field; and as a pocket companion for the assistant engineer it will be found invaluable. I am, very respectfully,

Yours, etc.,

ELLWOOD MORRIS.

Illinois.

The Rock Island and Southern Michigan roads are progressing very rapidly under the present pleasant weather.

Mr. Gardner has the contract on the Southern Michigan to the State line, and on the Rock Island to Worth, and is driving the work as fast as possible.

Mr. Matteson has the contract from Worth to the Du Page river. He has sub-let the most of it, and there are men at various points on the road. The calculation is, to have the road done to Joliet by July 4th next.

J. Crotty, Esq., a very experienced and worthy contractor, is about taking the contract from Du Page river to Ottowa.

The part of the road from Ottowa to Rock Island is now being negotiated by different contractors.

Tennessee.

An effort is being made by the people of Blount county, East Tennessee, to cause the line of the East Tennessee and Georgia railroad to pass thro' that county, instead of crossing the Tennessee river at Blair's Ferry, and running through Knoxville, as has been contemplated. Considerable distance would be saved by the change, and a cheaper and more direct route would be followed.—Should it be effected, the connection of the above, with the East Tennessee and Georgia road would be formed at Strawberry Plains, in Jefferson county. The change of route spoken of is favored we believe by the last named company. It would save them the building of some 15 miles of road. Blount county has already raised $127,000 toward the above object, and promises to carry this sum up to $150,000. Should the contemplated alteration meet the approbation of the East Tennessee and Georgia railroad company, it will be likely to be carried out.

Hempfield Railroad.

At a meeting of the Hempfield railroad company held at Washington on the 24th ult., the following gentlemen were elected directors for the ensuing year:—Harrison T. Laird, Hugh Brady, S. Bentley, T. M. T. McKennan, James Pauli, Samuel Neel, I. W. Mitchell.

Ohio and Pennsylvania Railroad.

This road is now in operation from Pittsburg to Enon Valley, 45 miles, and an Express train is to be put on to-day. It will leave Pittsburg at 8 o'clock, A. M. The road will be completed to Salem in a few weeks. The Pittsburg Gazette says two gangs of hands are laying the track between Alliance and Massillon, and the cars will probably run to Massillon, 110 miles from Pittsburg, early in January.

Notice to Contractors.

Virginia Cntral Railroad.

SEALED PROPOSALS will be received at the Engineer's Office of the Virginia Central railroad at Staunton, on the 18th day of December, 1851, for the Grading, Masonry, etc., of that portion of the line extending from Staunton to Panther's Gap, a distance of 35 miles. Drawings and specifications of the work may be seen from the 15th to the 18th of December, inclusive.

The best of references will be required. Contractors are requested to state what work they are engaged upon, and when it will be completed.

The Directors reserve the right to accept or reject proposals as they may consider the interests of the company require. The names, in full, of all the parties must be given in the proposals.

By order of the President and Directors.

T. COLDEN RUGGLES,
Chief Engineer.

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES & LEVELS on a new principle, with Fraunhofers Munich Glasses, Surveyors' Compasses, Barometers, Chains, Drawing Instruments, etc., all of the best quality and workmanship, for sale at unusually low prices by E. & G. W. BLUNT,
No. 179 Water st.

New York, Dec. 1, 1851.

M. B. Hewson, *Civil Engineer,*
(Open to a New Engagement,)
Memphis, Tenn.

LOWMOOR
LOCOMOTIVE TIRES.

THE Subscriber, sole agent for the Lowmoor Co., is prepared to take orders for this superior description of tires, which are furnished, bent, welded and blocked to any dimensions, having but *one weld*, and at a cost to the importer of less than *ten cents per pound* for the heaviest weights.

WM. BAILEY LANG.
Boston, November 29th. 1m

Railroad Iron.

THE undersigned offer for sale 1000 tons Railroad Iron, (about 56 lbs. to the yard,) now at Brooklyn.

CHOUTEAU, MERLE & SANFORD,
Oct. 1, 1851. 51 New st.

Railroad Iron.

2000 TONS of an approved pattern 59 to 60 lbs. per lineal yard, now manufactured in England, and ready for immediate shipment, from thence.

Also, 2,500 tons of different patters in port and expected to arrive within sixty days. For sale by

DAVIS, BROOKS & Co.
28 Beaver Street, New York.

CONTRACTS made for Railroad Iron at a specific price delivered in England, or at port in the United States.

To Railroad Companies.
H. & F. BLANDY, Proprietors
LOCOMOTIVE ENGINE WORKS,
ZANESVILLE, OHIO.

RESPECTFULLY give notice to Railroad Companies that they are now prepared to furnish Engines of the most approved construction and finish, which, for capacity, speed and durability, are not excelled in this country.

Also, all other Railroad machinery, of both wrought and cast iron, pertaining to the road, stations or machine shops.

Terms as favorable as any other builders in the United States.

The facilities for transportation from Zanesville are as good as from any other point in the Union, having steamboat navigation to the Ohio river, and Canal boat and Railroad connection with the Ohio river and Lakes.

One of their Engines, the "MUSKINGUM," on the Central Ohio Railroad, may be referred to, or others, at their works. The attention of those interested is invited, and orders solicited.

Oct. 30th, 1851.

To Contractors.

OFFICE OF THE E. AND ILL. R. R. Co.,
Evansville, Oct. 23d, 1851.

SEALED PROPOSALS will be received at this office from the 13th to the 23d day of December next, for the grubbing, grading and bridging of that portion of the Evansville and Illinois railroad, lying between Princeton and Vincennes, a distance of 24 miles.

This work includes two bridges; one across White River, about 600 feet, the other across Patoka, about 200 feet.

Contractors will state what proportion of the Stock of the Company will be taken in payment.

Plans, profiles and specifications, will be exhibited, and all requisite information given at the Office of the company in Evansville, on and after the 13th day of December next. By order of the Board of Directors. SAM'L. HALL,
President.

RAILROAD SPRINGS.
Fuller's India-rubber Springs.

THESE are now made in our own Factory, of the best materials. Each spring is guaranteed to perform the required work. Purchasers guaranteed against adverse claims.

Car Builders will save great expense by calling at the office of the Company.

23 Courtlandt St., New York.

To Railroad Companies.

THE undersigned has discovered and patented an imperishable, cheap, and sufficiently elastic substance, to be introduced between the sill and rail, so that the stone sill can be used in place of the wooden sill: entirely overcoming that rigidity where the rail is laid directly on stone. Address

J. B. GRAY, Philadelphia.
July 10, 1851. 4m

Railroad Iron.

THE undersigned are prepared to enter into contracts now at specific prices, to deliver Railroad Iron during the coming Winter and Spring, free on board at the shipping ports in Wales, or at ports in the United States.

CHOUTEAU, MERLE & SANFORD,
Sept. 30, 1851. No. 51 New st.

To Contractors.

OFFICE WILMINGTON & MANCHESTER R. R. Co.,
Marion C. H., S. C., October 18, 1851.

SEALED PROPOSALS will be received until the 15th of December next, for the Piers of a Bridge across the Great Pee Dee River. The job comprises four piers, one a very heavy pier for a draw, and the sinking of cast iron hollow piles by "Dr. Pott's Pneumatic Process," for forming foundations. The plans and specifications of the piers will be exhibited by the Secretary of the Company at Marion Court House, and by the Resident Engineer, L. J. Fleming, Esq., at Wilmington, North Carolina. WALTER GWYNN,
Chief Engineer Wilm. and Man. R.R.
November 1. Richmond, Va.

Bridges & Brother,

DEALERS IN

RAILROAD AND CAR FINDINGS,

64 Courtlandt street, New York.

Having established a general Depot for the sale of articles used in the construction of Railroads, Locomotive Engines and Railroad Cars, we would invite your attention to our establishment. We have already in store a good assortment of CAR FINDINGS and other articles used in the trade, and feel justified in saying, that should you desire anything in our line, we can supply on terms perfectly satisfactory, and in the event of your desiring to order, you may feel assured that your terms will be as good as though you were here to make your own purchases.

Among our goods may be found Railroad Car Wheels, Axles, Jaws and Boxes, Nuts and Washers, Bolts, Brass Seat Hooks and Rivets, Window and Blind Springs, Lifters and Catchers, Door Locks, Knobs and Butts, Ventilators and Rings, Car Lamps, Coach and Wood Screws, Jack and Bed Screws and Babbitt's Metal; also Plushes, Damask, Enameled Head Linings, Cotton Duck for Top Covering in width sufficient without seams, Curled Hair and all other articles appertaining to cars.

Also a new and valuable CAR DOOR LOCK, well adapted to the Sliding Door. This is decidedly the best yet introduced.

LOCOMOTIVE ENGINE LANTERNS, the best article made in the country. Whistles, Gauge and Oil Cocks, Hemp Packing, American, Russian and Italian. We are also agents for Lightner's Patent Journal Box for Car Axles, that invaluable invention, for the economical use and preservation of Car Journals.

Coach VARNISH and Japan of the best quality.

We would also offer our services for the purchase as well as for the sale of goods on commission.—Both members of our firm have had the experience of many years in the manufacture of Railroad Cars, and our Senior was a member of the well known house of DAVENPORT & BRIDGES, Car Manufacturers, Cambridgeport, Mass. With our knowledge of matters pertaining to Railroads, we feel quite confident in giving satisfaction to both buyer and seller, and hope that through assiduity and attention to any business entrusted to our care we shall merit a continuance of confidence and patronage.

BRIDGES & BROTHER.

July 22, 1851.

Lightner's Patent Axle Boxes.

THE Undersigned are Agents for, and offer for sale, *Lightner's Patent Axle Boxes*, for Railroad Cars and Tenders, which have, by thorough experience, been demonstrated to be one of the most valuable improvements ever introduced in Locomotion. The saving effected in oil alone, will in a few months pay the first cost of these boxes, independent of other advantages. They are now in use upon the following, among other roads, viz:

Boston and Worcester, Boston and Providence, Boston and Fitchburgh, Nashua and Lowell, Providence and Worcester, Northern, N.H., Cheshire, Manchester and Lawrence, Concord, N.H., Concord and Claremont, Ogdensburg, (Northern, N.Y.) Stonington, New London Willimantic and Palmer, New Jersey Central, New Hampshire Central, Worcester and Nashua, Fitchburg and Worcester, Connecticut and Passumpsic, Lowell and Lawrence, Salem and Lowell, Wilton Branch, Newburyport.

Below will be found the certificates of a number of gentlemen, whose opinions will be good authority in every part of the country.

Office Boston and Prov. R. R., }
Boston, Dec. 28, 1849. }

MR. JOHN LIGHTNER,

Sir,—It affords me pleasure to say, that after two years' trial of your boxes, I am fully and entirely satisfied of their superiority over any other pattern we have used. This superiority consists in economy of oil and freedom from "heating." I have ried every pattern of box in use, of any note, and do not hesitate to say, that you have devised one which in every respect combines greater advantages than any other within my knowledge; these advantages are so manifest, hat I am fitting up all our cars with your boxes, as fast as practicable.

Annexed, is a statement of an experiment with your boxes, the result of which may be of use to your interests.

Ten passenger cars, running 72 wheels, fitted up with Lightner's boxes used 41¼ pints of Patent Oil, at 50 cts. per gallon, ran 43,099 miles, equal to 5·18 pints per wheel for 43,099 miles. Speed, 30 to 40 miles per hour.

Very respectfully yours,
W. RAYMOND LEE, Supt.

I have examined the above statement of Mr. Lee, and fully concur with him in his opinion of the superiority of Lightner's box.

GEORGE S. GRIGGS,
Supt. Machine Shop B. & P. R. R.

—

Boston, July 26, 1849.

This is to certify that J. Lightner's axle boxes for railroad cars and locomotive tenders, have been in use on the Boston and Worcester railroad one year, and I unhesitatingly pronounce it, in my opinion, the best and most economical one in use, requiring less oil, of easy application, not susceptible of derangement, as in most kinds in use. When requiring repairs or renewal, the same may be done in one-fourth of the time usually occupied for that purpose. The box requires oiling not oftener than once a month—is kept quite free from dust, and consequently wears much longer than those generally in use.

D. N. PICKERING,
Supt. Motive Power, B. & W. R. R.

—

Office of Boston Locomotive Works, }
December 12th, 1849. }

The Boston Locomotive Company have been using J. Lightner's patent axle boxes under the tenders of their engines for several months, and find them more highly spoken of by the railroad companies that have used them in regard to economy in the use of oil, their durability and their ease of adjustment, than any other boxes which they have used. We therefore do not hesitate to recommend them to all railroad companies.

DANIEL F. CHILD,
Treas. Boston Locomotive Works.

—

Taunton Locomotive Works, }
Taunton, July 7, 1849. }

MR. H. F. ALEXANDER,

Dear Sir,—Your favor of yesterday came to hand in which you ask what success we have met with, in using Mr. Lightner's patent box for cars, engines, &c.

We have put it in use on the Boston and Providence railroad, New Bedford and Taunton Branch railroad, Central railroad, N. J., Norfolk County, Rutland and Burlington, and as yet we have not had one complaint from them; and from what we have used of it, and witnessed, we do not hesitate to say that it is superior to anything in use for that purpose. It is simple in its construction, and easy of access, and the reservoir is held close to the shaft, and the oil and journal is perfectly secure from dust; they will run from four to six weeks without replenishing the oil. The brass in the box is changed very much easier than by any other plan that we have seen.

Very resp. yours,
W. W. FAIRBANKS, Agent.

—

Office Providence & Worcester R. R. Co., }
Providence, Dec. 17th, 1850. }

H. F. ALEXANDER, ESQ.,

Sir,—The "Lightner patent boxes" for cars and locomotives have been in use under a portion of the passenger cars and engines of this company for upwards of two years, and have given very great satisfaction.

Though combining many excellent qualities, their great superiority consists in the economy of oil.

The result of experiments upon this road shows the consumption of oil by the use of this box, to be not more than one sixth part the quantity consumed by the use of the common box.

With the common box, eight passenger cars, 64 wheels, running 90 miles per day, consumed in 12 months 520 gallons of oil, being an average of 8¼ gallon per whee per annum.

With the Lightner box the same cars running the same number of miles per day, during the same space of time consumed 73¼ gallons of oil, being an average of 1¼ gallon per wheel per annum.

So manifest are its advantages over any other box used by this company, it is intended to place it under all our cars as soon as practicable.

Besides the saving of oil, as they afford complete security from dust, we think them more durable than any other box in use.

Another advantage resulting from the use of this box is, cars run more easier than with the common box. The saving in fuel which it would effect, would of itself, we think be a sufficient inducement to use this box in preference to any other known to us.

Very respectfully,
ISAAC H. SOUTHWICK, Supt.
JOHN B. WINSLOW,
Supt. Machine Shop, P. & W. R. R.

—

Cambridgeport, April 5th, 1851.

H. F. ALEXANDER, ESQ.

Sir,—This may certify that I have been engaged in the manufacture of railway cars since 1834, and have built for the different railroad companies cars of all descriptions to the amount of three millions of dollars, and have used on the above cars all kinds of journal boxes, and find that none give better satisfaction than the "Lightner patent box," both on account of the saving of oil and the arrangement for taking out and re-placing the composition by means of the sliding key, and other conveniences which no other box possesses.

Yours respectfully,
CHARLES DAVENPORT.

—

Worcester, March 17th, 1851.

H. F. ALEXANDER, ESQ.

Dear Sir,—This is to certify that I have been for some years past engaged in building cars, and that I have tried most, if not all of the patent boxes, and have found Lightner's patent superior to all others as far as the saving of oil is concerned, also the ease with which they are fitted and exchanged in case they get out of order.

For the last three years, I have put them under all of the cars I have built, and in every instance they have given the most entire satisfaction.

Yours truly,
OSGOOD BRADLEY.

—

Office Union Works, So. Boston, }
May 23d, 1851. }

This certifies that I have applied Mr. J. Lightner's patent axle boxes to my locomotiues and tenders for the past two years. I consider them superior to all others,—economical in their use, and possessing many important advantages not found in any other boxes.

SETH WILMARTH.

—

Office 15, R. R. Exchange, Boston, }
June 1, 1851. }

This is to certify, that we have known the success of Lightner's patent journal boxes upon various roads in New England the past three years, and have been led to examine their peculiar construction.—We are well satisfied of their merits, and have adopted them upon our small gravel cars, and take pleasure, as we ever have done, in recommending their use upon all roads where we are employed in the construction.

GILMORE & CARPENTER,
Contractors.

—

Amoskeag Manufacturing Co. Machine Shop, }
Manchester, May 31, 1851. }

H. F. ALEXANDER, ESQ.

Dear Sir,—We are using the Lightner box on all the engines and tenders we build, and we are satisfied that it is the best box in use, and recommend the same to all those who purchase engines at our works.

Yours respectfully,
O. W. BAYLEY, Agt.

—

This is to certify that the Fitchburg railroad company having become satisfied of the superiority of J. Lightner's patent Axle Boxes for Railway Cars and Locomotive Tenders adopted the same

and are bringing them into general use upon their road.

One year's experience with the above improvement, has fully convinced me that there has never been anything offered to the public for that purpose which possess such intrinsic value; int act, this is an improvement which seems to overcome all the difficulties found in all the various kinds now in use. It possesses very many advantages over all others: Some of which are [first] the first cost is much less than that of most boxes in use. [Secondly] 75 per cent is saved in oil; one gill applied to each Journal once a month, or one quart to an eight wheel car, is all these boxes require per month [Thirdly] no dust can gain access to the Journal, which is constantly lubricated with clean oil; hence the saving in repairs of Journals and composition bearings, is a matter of importance. [Fourthly,] its construction is truly simple—not complicated, having nothing liable to become loose by constant and severe service. [Fifthly] for convenience there is nothing which approaches this improvement.—The composition bearings may be removed from the Journals of an eight wheel car, by one man, and returned, or duplicates, in twenty minutes, while under the car: the same would require two men, at least half a day with other boxes in use.—The trucks and wheels using these boxes, are free from oil and dirt, usually seen upon all railroad cars, at great expense to the corporation.

NATH'L JACKSON.
Supt. Car Building and Repairs, F.R.R. Co.

—

Boston, March 9, 1849.

I hereby certify, that I have examined a box for Car Journals, invented by Mr. Lightner of Roxbury, Mass, and I have thought so well of it that I have adopted it on our railroad, I have known of its success on other roads.

S M. FELTON,
Supt. F. R. R.

—

Office of the Central R. R., N. J.,
Elizabethtown, May 1849.

H. F. ALEXANDER, Esq.,

Dear Sir:—Your favor, [wishing to be informed how we liked Lightner's patent axle boxes for R.R. Journals,] has been duly received; in answer we would say, we have used the boxes on Locomotive tenders one year, more or less, and on our cars some six months. I consider them the best boxes in every respect, I have ever used, or even seen used on any other roads—for safety, durability and the economy pertaining to all the details connected with the boxes and Journals of R. R. Car wheels; and we shall adopt them upon this road.

Yours Respectfully,
JOHN O. STEARNS.
Supt. Central Railroad Co., N. J.

—

Manchester, N. H., Nov. 1st, 1850.

H. F. Alexander, Sir,

I have used "Lightner's Boxes" under all the Cars of the Manchester and Lawrence railroad, and feel no hesitation in saying that I think them to be the best boxes now in use.

Yours, &c.,
THEODORE ATKINSON, Agent.

—

Cheshire R. R. Office, Keene, March 5th, 1851.

Mr. H. F. Alexander,

Sir,—Lightner's Patent Boxes have been used on the Cheshire R. R. about a year, and have given the highest degree of satisfaction.

All the Passenger Cars now in use, and a considerable number of Merchandize Cars are furnished with them, and they will take the place of the Common Boxes on all the cars as fast as circumstances will permit.

Very Resp't.
L. TILTON,
Supt. Cheshire R. R.

—

Boston and Worcester Railroad, Boston, April 1st, 1851.

H. F. Alexander, Esq.,

Dear Sir,—Lightner's Patent oil saving box for railroad cars, has been adopted by this corporation; we are taking out the common and substituting the Lightner's at the rate of fifty boxes per month; it will soon take the place of all others, as it is decidedly preferable to any heretofore used by this corporation.

G. TWITCHELL, Supt.

Statement of amount of oil used on 32 8-wheel freight cars, on the Boston and Providence Railroad (with Lightner's Boxes) from March 10, 1849, to February 27, 1851, and upon 12 8-wheeled passenger cars from September 8, 1849, to February 27, 1851.

FREIGHT CARS.

Amount Oil.	No. months.	Amount Oil.	No. months.
1.—21 pts.	10	17.—23½ pts.	14
2.—19 "	6	18.—23½ "	11
3.—25 "	13	19.—36 "	21
4.—18 "	7	20.—22 "	10
5.—22 "	12	21.—38½ "	24
6.—24 "	13	22.—29 "	23
7.—20 "	11	23.—35½ "	23
8.—21 "	11	24.—37½ "	23
9.—23½ "	10	25.—51 "	23
10.—21 "	9	26.—31½ "	24
11.—20 "	9	27.—28½ "	23
12.—21½ "	11	28.—36 "	23
13.—19 "	8	29.—50½ "	24
14.—25½ "	17	30.—50 "	23
15.—20½ "	10	31.—41 "	23
16.—31 "	18	32.—39½ "	23
		Total, 925½ pts.	510

PASSENGER CARS.

1.—19½ pts.	18	7.—30 pts.	18
2.—25½ "	18	8.—25½ "	18
3.—33½ "	16	9.—29 "	18
4.—19 "	15	10.—46½ "	17
5.—15 "	15	11.— 9 "	9
6.—22 "	18	12.—65½ "	17
		Total, 340 pts.	197

Averaging 1 4-5 pints of oil for freight, and 1 7-10 for passenger cars per month only!

All orders and enquiries promptly attended to.

BRIDGES & BROTHER,
No. 64 Courtlandt st., New York.

July 25, 1851.

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price $1.

Also, "*Trautwine's Method of Calculating Excavation and Embankment.*"

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidity, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, $1. For sale by Wm. Hamilton.

June 28, 1851.

Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices and of quality tried and approved for many years, on he oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.

Jan. 20, 1849.

To Chief Engineers, Directors of Railroads, Canals, etc.

A Civil Engineer and Surveyor, who has been professionally engaged under the British Government, East India Company, etc., is desirous of obtaining employment as an Assistant. No objection to the South or West. Address for one month to C. E. & S., American Railroad Journal office.

August 16, 1851.

To Engineers.

A NEW WORK on the Marine Boilers of the United States, prepared from authentic drawings, and illustrated by 70 engravings, among which are those of the fastest and best steamers in the country, has just been published by B. H. Bartol, Engineer, and is for sale at the store of

D. APPLETON & CO.,
Broadway

September 1, 1851.

Pneumatic process for making Foundations for Bridges, Piers, etc.

THE Attention of Engineers, Contractors, and Bridge Builders, etc., is directed to this method of forming secure foundations. Hollow Cylindrical piles from 8 inches to 10 feet in diameter may be sunk through sand, mud, clay, etc., to any required depth, and filled with concrete or masonry.

The efficacy and economy of the process has been demonstrated in the construction of numerous permanent works, at a much less cost than the use of any other method. (See evidence in Parliamentary enquiry, Railroad Journal, April 19, 1851.)

Contracts made, or licenses granted for the use of the invention in any part of the United States, by

CHARLES PONTEZ,
34 Liberty street, N. Y.

LOWMOOR IRON.

THE *LOWMOOR* IRON COMPANY having appointed WM. BAILEY LANG their sole agent in America and Canada, he is now prepared to receive and execute all orders for Railway Tire Bars, bent, welded, and blocked Railway Tires, Axles, Piston Rods, and Boiler Plates. Also, plain, angle, rivet and every other description of Lowmoor Iron.

All communications respecting the above are requested to be sent to Wm. Bailey Lang, at his Steel Warehouse, No. 9 Liberty Square, Boston, or to the Lowmoor Iron Works, Bradford, Yorkshire, England. 30th Sept., 1851.

RAILROAD SPRINGS. Fuller's Patent India-rubber Springs.

PRICE reduced to 50 cents per pound. The owners of this Patent now manufacture the Springs in their own Factory, and guarantee that each spring shall perform its required duty.

Purchasers guaranteed against adverse claims. They may have full confidence in the working qualities of the springs.

The suits brought against Ray & Co., will soon be brought to issue, and we await the result with satisfaction, having full confidence in the pure administration of the Laws.

The long advertisements put forth by Ray & Co. about prior invention of the spring are worthless he has not proved prior invention, and cannot sustain his patent in a Court of Law.

For the owners of Fuller's Patent,
G. M. KNEVITT,
23 Courtlandt st., New York.

October 7, 1851.

Railroad Iron.

THE undersigned, Agents for British Manufacturers, continue to sell Railroad Iron of the best quality, and of any weight or pattern required; deliverable at any part of the United States or Canada.

They have now on hand, ready for delivery New York:

2,000 tons of an approved pattern, weighing about 60 lbs. to the yard.

WM. F. WELD & CO.,
42 Central Wharf, Boston.

Practical and Scientific Books

PUBLISHED BY

HENRY CAREY BAIRD,

SUCCESSOR TO E. L. CAREY, PHILADELPHIA.

For sale by Dewitt & Davenport, Tribune Buildings, New York, and Booksellers generally throughout the United States and Canada.

Now being published in Twelve Parts, price 25 cents each, the PRACTICAL MODEL CALCULATOR, for the Engineer, Machinist, Manufacturer of Engine work, Naval Architect, Miner and Millwright.—By Oliver Byrne, Compiler and Editor of the Dictionary of Machines, Mechanics, Engine Work and Engineering, and Author of various Mathematical and Mechanical works—illustrated by numerous Engravings; forming, when completed, one large volume, octavo, of nearly 600 pages.

It will contain such calculations as are met with and required in the Mechanical Arts, and establish models or standards to guide practical men. The tables that are introduced, many of which are new, will greatly economise labor, and render the every-day calculations of the *practical man* comprehensive and easy. From every single calculation given in this work other calculations are readily modeled, so that each may be considered the head of a numerous family of practical results.

The examples selected will be found appropriate, and in all cases taken from the actual practice of the present time. Every rule has been tested by the unerring results of mathematical research, and confirmed by experiment, when such was necessary.

The Practical Model Calculator, will be found to fill a vacancy in the library of the practical working man long considered a requirement. It will be found to excel all other works of a similar nature, from the great extent of its range, the exemplary nature of its well selected examples, and from the easy, simple and systematic manner in which the model calculations are established.

Parts 1, 2 and 3 now ready.

American Miller and Millwright's Assistant, By W. C. Hughes. 12mo., illustrated...$1 00
Byrne's Practical Model Calculator. In 12 parts, each 25
Byrne's Treatise on the American Steam Engine. 8vo, [in press] .....
Booth's Encyclopedia of Chemistry. In one vol. royal 8vo, 974 pages, sheep..... 5 00
Builders' Companion. By A. C. Smeaton.—Seventy illustrations, 12mo., cloth..... 1 00
Cotton Spinner and Manufacturers' Companion. By Scott and Byrne. In one vol. 8vo., cloth, with large working drawings..... 3 50
Cabinet Maker and Upholsterer's Companion. 12mo., cloth 75
Dyer and Color Maker's Companion. 12mo., cloth 75
Elwood's Grain Tables. A new edition, in one vol. 12mo., cloth..... 1 00
Encyclopedia of Useful Knowledge. 8vo., illustrated..... 5 00
Fisher's Photogenic Manipulation. 16mo., cloth..... 62
Gregory's Mathematics for Practical Men. Illustrated, 8vo., cloth..... 1 50
Household Surgery, or Hints on Emergencies. By J. F. South, M.D. 12mo., cloth..... 1 25
Leslie's Complete Cookery. 41st edition, 12 mo., sheep..... 1 00
Morfit's Perfumery: its Use and Manufacture. 12mo., cloth..... 1 00
Morfit's Treatise on Tanning, Currying, and Leather Dressing in General. In one vol. large 8vo., [in press].....
Norris' Hand-book for Locomotive Engineers. By Septimus Norris. 12mo., cloth..... 1 50
Neill's Fruit, Flower and Kitchen Garden. Illustrated by numerous plates, 12mo. cloth. 1 25
Overman on the Manufacture of Iron and Steel. Illustrated, 8vo., cloth, new edition. 5 00
Practical Metal Workers' Assistant. By C. Holtzappfel, with numerous illustrations, 8vo., cloth..... 4 00
Painter, Gilder, and Varnishers' Companion. New edition, 12mo., cloth..... 75
Randall's Sheep Husbandry in the South. Illustrated, 8vo., cloth..... 1 25
Steam for the Million. 8vo., paper..... 37

Best Cast Steel Axles & Tires,

(A NEW ARTICLE,)

For Railroad Carriages and Locomotives.

THE quality of this Steel is sufficiently attested in the announcement that it has carried off the first prizes awarded at the World's competition of 1851, in London. The axles are in general use on the Continent, and are now offered in competition with any other that can be produced; and to be tested in any way that may be desired by the Engineers of the United States, either by impact or by torsion. This Steel is manufactured by Fried Krupp, Esq., of Essen, in Renish Prussia, represented in the United States by

THOS. PROSSER & SON,
28 Platt st., New York.

November 1.

To Railroad and Canal Companies, Contractors, etc.

THE Undersigned wishes to direct the attention of Chief Engineers and Contractors to the facilities he possesses for supplying them with workmen, laborers, etc. of any description, and also to remind them that he forwards such men to whatever destination they may be required.

Companies or Contractors desirous of receiving peaceable and industrous men, will be promptly supplied at the shortest possible notice.

C. B. RICHARDS,
No. 85 Greenwich Street, New York.

REFERENCES:—Chas. H. Webb, Esq., Supt. of the St. George's and British Protective Society, New York; Messrs. Harris and Leech, Philadelphia, Wm. P. Malburn, Esq., Albany.

To Stone Masons.

THE NEW ALBANY AND SALEM RAILroad Company have about 10,000 c. yards of Abutment Masonry to let at private contract, to be completed by the 1st of July, 1852.

To contractors who can produce testimonials of character for ability as STONE MASONS, fair, remunerating prices will be given.

Early applicants, by securing the work now offered, will gain advantages over competitors for the erection of an additional 15,000 yards, to be let out early next spring, in bridging the streams between Bedford and Michigan City, via Bloomington, Gosport, Crawfordsville and Lafayette, (the most productive and healthy region in Indiana,) by the knowledge they will have acquired of the resources of the country.

Application may be made in person, or by letter addressd to the undersigned, at New Albany, Indiana. S. B. WILSON, Engineer.

Engineer's Office, New Albany, Sept. 29th, 1851.

Engine Waste.

CLEAN WASTE for Locomotive and Steamboat Engines, in lots as wanted; also, superior Steam Packing. Orders, with explicit directions for forwarding, should be addressed to

J. MORTIMER HALL,
36 South st., New York.

November 1. 3m

Notice to Contractors.

SEALED proposals will be received at the office of the company in Galesburg, on Wednesday, the 24th day of December next, for the grading, bridging and masonry of the Central Military Track road. The road will be nearly fifty miles in length, and embraces a variety of work well worth the attention of contractors.

Proposals will also be received at the same time and place, for the Cross Ties, to be delivered at different points on the line.

Contractors will be expected to state in their bids the amount of the stock of the company they will be willing to take for work done; and preference will be given to those bidders who will take the greatest amount of stock.

Plans, profiles, specifications, etc. will be exhibited ten days previous to the day of letting, and all the necessary information with regard to the manner of its construction, etc., furnished by the engineer of the Board.

By order of the Board of Directors.
WM. McMURTRY, President.
GEO. G. LANPHERE, Secretary.

To Railroad Companies, etc.

The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Switches, etc.

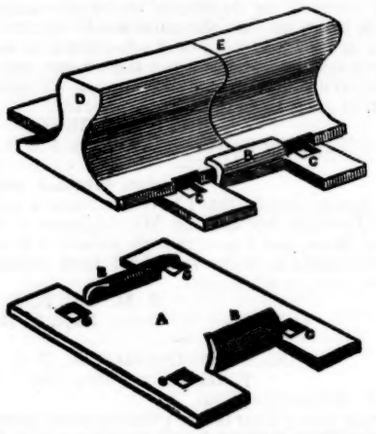
I also invite attention to an improved PATENT SPRING LOCK, for SLIDING Doors to Freight and Baggage Cars, now in use upon the Pennsylvania Central, Greensville and Columbia, S.C., Reading, Pa., and other Railroads.

Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to

C. LIEBRICH,
46 South 8th St. Philadelphia.

May 9, 1851.

The American Railroad Chair Manufacturing Co.



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

DESCRIPTION OF THE ABOVE CUTS.

Figure 1 is a perspective view of the rail secured in the chair, and fig. 2 is a perspective view of the chair itself. D, E, are sections of two rails placed together, and secured at the joint on the chair by the jaws B, B. The chair is bolted down by spikes C, C. In fig. 2, the chair is represented as made of a single block or plate A of wrought iron.

The chair is set in its proper place on the track, spiked down, and the ends of the two rails brought together within the jaws as represented in fig. 1.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

June 1, 1851.

Railroad Commission Agency.

THE Subscriber offers his services to Railroad Co's and Car Makers for the purchase of equipment and furniture of roads and depots and all articles and materials required in the construction of cars, with cash or approved credit. No effort will be spared to select the best articles at the lowest market price.

He is sole Agent for the manufacture of the ENAMELED CAR LININGS, now in universal use. The best Artists are employed in designing new styles, and he will make to order pieces with appropriate designs for every part of the car, in all colors, or with silver grounds and bronzed or velvet figures.

He is also Agent for Page's Car Window Sash Fasteners, which is preferred by all who have used it to any other. CHARLES STODDER,
75 Kilby st., Boston.

June 20, 1851. 3m.